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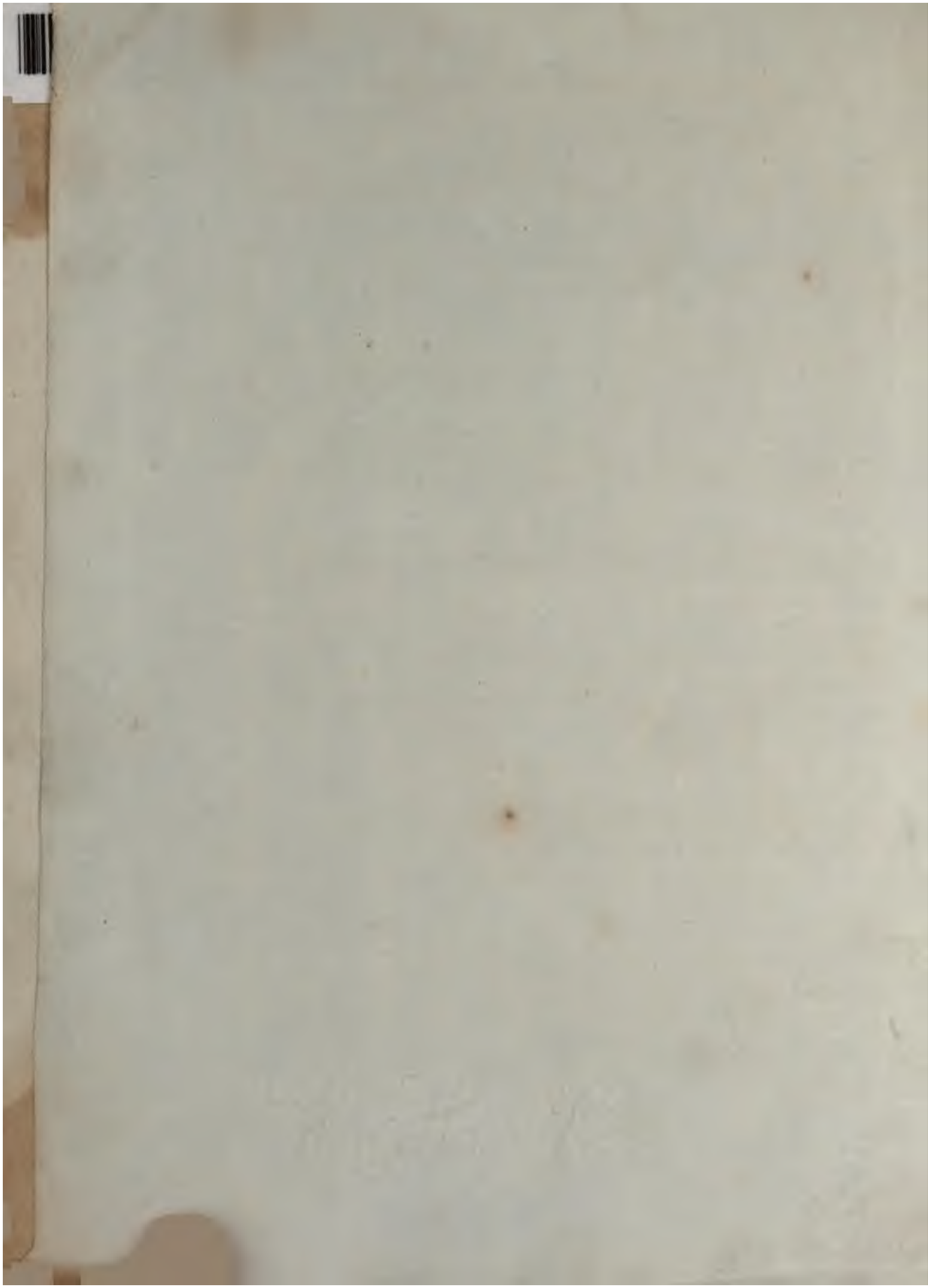

THE

Philoſophical and Mathematical

COMMENTARIES

OF

PROCLUS,

ON THE

FIRST BOOK OF EUCLID'S ELEMENTS.

TO WHICH ARE ADDED,

A HISTORY OF THE RESTORATION

OF THE

PLATONIC THEOLOGY,

BY THE LATTER PLATONISTS:

And a Tranſlation from the Greek of

PROCLUS'S THEOLOGICAL ELEMENTS.

By THOMAS TAYLOR.

Νυν αὔτε σκοπὸν αλλον, ὃν ὄπω τις βάλεν ανὴρ,
Εἴσομαι αἴ κε τύχοιμι, πόρη δέ μοι εὖχος. ΑΠΟΛΛΩΝ.——Hom. Odys.

VOLUME II.

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PREFACE.

I Now preſent the reader with the remaining part of the Commentaries of Proclus on Euclid: with the addition of his Theological Elements, and a Hiſtory of the Reſtoration of the Platonic Theology, by the latter diſciples of Plato. Should my deſign be enquired into, in combining works which the ſuperficial obſerver will conſider as oppoſite and heterogeneous, I anſwer that it is no leſs novel than certain, no leſs important than appoſite and connected. Its novelty will be evident by aſſuring the reader, that a vindication of philoſophical Polytheiſm, as embraced by the wiſdom, and ſupported by the general voice of antiquity, is the ultimate tendency of its execution. Its connection too with geometry will be manifeſt to every Tyro in Platoniſm, and has been ſo copiouſly proved in the former volume, that it would be ſuperfluous to repeat the demonſtration in the preſent. I am well aware that nothing has been ſo much the ſubject of ridicule and declamation, of ignorant aſperſion and impotent contempt, as the theology of the ancients. It has ſupplied the harangues of the pulpit with an endleſs variety of popular argument, and an exhauſtleſs ſource of *prieſtly* elocution. It has been equally derided by the man of learning and the merchant, by the noble and the vulgar, by the peaſant and the prieſt. But it ſtill lives in the works of the ancients, it is ſtill capable of being ſupported by ſound reaſoning, and ſublime philoſophy; and its intrinſic excellence and truth will extend its exiſtence beyond the wreck of modern ſyſtems, and the deſolation of ages. Like a ſtrong and capacious ſhip it ſails with majeſtic ſecurity through the ocean of time; and ſuſtains with careleſs dignity the ſtorms of oppoſition that roar round its well-compacted ſides. The blaſts of calumny may indeed impede

pede its progreſs, but are unable to ſhatter its indiſſoluble fabric; and the proſperous gales of philoſophy will always ſucceed the tempeſts of folly, and waft it with rapidity to the *enlightned* regions of mankind. The time perhaps is not far diſtant, when this fortunate change may commence. Above twelve hundred years have elapſed ſince the veſſel of ancient wiſdom viſited the civilized parts of the world, and the nations were bleſt with its invaluable contents: and during this dreadful interval, ignorance and deluſion, *jargon* and *reverie*, have held an undiſturbed and univerſal reign. The depravity of the times is the ſubject of general complaint: genius no longer ſoars; learning has evaporated into words; and philoſophy is but a name. Yet, though the reſtoration of ancient theology is the object of my moſt ardent deſires, I much fear that a period ſtill more barbarous, with reſpect to philoſophy; that an age ſtill darker and more debaſed muſt precede its eſtabliſhment on the earth. Prodigies and deſtruction attended, as we ſhall obſerve in the enſuing hiſtory, its departure from mankind; and deſolation will doubtleſs be the harbinger of its future appearance. The orb of viciſſitude produces renovation and decay in regular ſucceſſion; and marks, as it revolves, the dormant events of future periods with *the ruinous* characters of the paſt. Let us, therefore, patiently wait for, and joyfully expect the happy moment when the breezes of philoſophy ſhall ariſe with abundance and vigour; and impel the veſſel of theology laden with the riches of wiſdom, on our natal coaſt. The revolution is certain, however remote: and the proſpect is of itſelf ſufficient to increaſe the vigour of exertion, and animate the expectations of hope; to enable us to brave the ſtorms of eccleſiaſtical perſecution, and vanquiſh the reſiſtance of folly.

COMMENTARIES OF PROCLUS.

BOOK III.

Concerning Petitions and Axioms.

*SINCE the principles of geometry are triply divided into Hypotheſes, Petitions, and Axioms, the difference between theſe we have explained in the preceding books. But we now intend to diſcourſe more accurately of petition and axiom, as eſpecially neceſſary to our preſent deſign. For hypotheſes, which are alſo called definitions, we have already explained. It is common, therefore, as well to axioms as to petitions, to require no demonſtration, and no geome-

* In the two preceding books of this work our author has diſplayed an uncommon degree of philoſophic elegance and depth; and in the preſent two, he no leſs manifeſts the greateſt geometrical accuracy and ſkill. In the former he elevates us from participated truth to truth itſelf; and from the glimmering light of univerſals reflected in the catoptric boſom of the phantaſy, to the bright refulgence of ideas. In the latter he combines geometry and philoſophy, occaſionally clothes the rigid accuracy of demonſtration with the enchanting imagery of divine imaginations, and unites the graces of diction with the preciſion and ſanctity of truth. Yet his genius, though rapid as a torrent, never paſſes beyond the bounds of propriety; and though his thoughts are vehement and vaſt, they are at the ſame time orderly and majeſtic. For my own part I confeſs myſelf enamoured with the grandeur of his diction, aſtoniſhed with the magnificence of his conceptions, and enlightened by the irradiations of his powerful genius. And I deſire nothing ſo much as that others may experience ſimilar effects from this admirable work. I only add, that the ſtudy of this ſecond part is abſolutely neceſſary to a perfect comprehenſion of Euclid's method and meaning; and to the underſtanding geometry completely and philoſophically. It is eaſy indeed to learn a ſcience in a manner ſufficient for mechanical purpoſes; for this is accompliſhed by the *many*: but it is arduous to learn it with a view to the perception of truth;

geometrical faith: but to be received as manifeſt, and to become the principles of the reſt. But they differ mutually from each other, in the ſame manner in which we have diſtinguiſhed theorems from problems. For as in theorems we propoſe to perceive and know that which follows a ſubject; but in problems we are ordered to compare and do ſomething: in the ſame manner alſo in axioms, we muſt receive whatever is manifeſt of itſelf, and eaſily apprehended by our untaught conceptions; but in petitions we muſt receive whatever is eaſy to be done and compared, (ſince in admitting theſe, thought is not fatigued) and whatever requires no variety, and no kind of conſtruction. Hence evident and indemonſtrable cognition, and unconſtructed aſſumption, diſtinguiſh petitions from axioms. Juſt as demonſtrative cognition, and an aſſumption of things ſought, together with conſtruction, ſeparates theorems from problems. For it is every where requiſite, that principles in ſimplicity, indemonſtrability, and ſelf-evidence, ſhould excel things poſterior to principles. For univerſally (ſays Speuſippus) of the things which cogitation purſues, ſome of its energies it produces without a various progreſſion, prepares them for future enquiry, and has a more evident apprehenſion of theſe than of viſible objects: but others which it is not able immediately to follow, by a tranſition proceeding from their nature, theſe it endeavours by *conſequence* to purſue. Thus for example, *to draw a right line from one point to another*, it receives as evident, and eaſy to be done. For ſince in this caſe the line is compoſed from the indeclinable flux of a point, and at the ſame time advances in an orderly progreſſion, becauſe it no where more or leſs declines, it neceſſarily falls in another point. Again, if one extremity of a right line abiding, the other is moved about it, it will deſcribe a circle without any labour. But if any one wiſhes to deſcribe a helix of one revolution, it requires a

for this is alone the province of a *few*. It is eaſy to be knowing in effects, for theſe are obvious and common; but it is difficult to inveſtigate cauſes, for theſe are occult and rare. In ſhort, a general and confuſed apprehenſion of a ſcience may be readily obtained, without much labour and toil; but a particular and accurate knowledge requires liberal application, and patient endurance. For the one is like the diſtant proſpect of a country, in which the larger parts are alone conſpicuous to the obſerver's eye; but the other reſembles a near and diſtinct view, in which every thing is recognized eſſential to the perfection of the whole.

more

more various operation. For it is generated by various motions. Likewiſe if any one wiſhes to conſtruct an equilateral triangle, he will require a certain method for its conſtruction. For the geometrical intellect ſays, when I underſtand a right line, which abides according to one of its extremities, but is moved about it according to the other, and at the ſame time conceive a point, which is moved in the line from the abiding extreme, I have deſcribed a helix of one revolution. For when at the ſame time both the extremity of the right line, which deſcribes the circle, and the point which is moved in the right line, arrive at the ſame point, and coincide, they produce for me ſuch a helix. And again, when I deſcribe equal circles, and draw right lines from the common ſection to the centre of the circles, and a right line from one centre to the other, I ſhall have an equilateral triangle. The production of theſe, therefore, is very remote from a ſimple apprehenſion, and primary notion. For we are content to purſue the progreſſions of their origin. Hence it happens that theſe are compared with greater eaſe or difficulty, and are exhibited with many or fewer mediums, according to the habit of thoſe who enter on this undertaking: but that they require demonſtration and conſtruction, on account of the property of the things ſought, which wants the evidence of petitions and axioms.

Petition, therefore, and axiom, are ſimple and eaſy to be apprehended. But petition, indeed, commands us to fabricate, and provide a certain matter, in order to the aſſignation of the *ſymptom*, which poſſeſſes an eaſy and ſimple apprehenſion: but axiom pronounces a certain eſſential accident, of itſelf known to the hearers. As that *fire is hot*, or any other of thoſe manifeſt truths, he who doubts of which, we conſider as either wanting ſenſe or puniſhment. Hence, petition and axiom are of the ſame genus; but they differ in the above-mentioned manner. For each is an indemonſtrable principle, but this after one mode, and that after another, as we have already obſerved. But ſome think that all theſe ſhould be called petitions, in the ſame manner as all problems, *things ſought*. For Archimedes beginning his book of *Equiponderants*, *we deſire it may be granted* (ſays he) *that things equally heavy, from equal lengths, will equally ponderate*; though

ſome would rather chuſe to call this an axiom. But others call all theſe axioms, in the ſame manner as they denominate every thing a theorem, which requires demonſtration. For, according to the ſame proportion, as it ſeems they paſs from proper names to ſuch as are common. Nevertheleſs, as a problem differs from a theorem, ſo petition from axiom: though both theſe laſt are indemonſtrable, and the former require demonſtration. And the one, indeed, is aſſumed as eaſy to be done, but the other is granted as eaſy to be known by the common conſent of all men. After this manner, therefore, Geminus diſtinguiſhes petitions from axioms.

But others will perhaps ſay, that petitions are indeed proper to the geometrical matter: but that axioms are common to the univerſal theory, which is converſant about the *how-much*, and *the how-many*. For the geometrician knows *that* which requires *that all right angles are equal*, and *that every finite right line may be produced ſtraight forwards:* but *that* which ſays, *things equal to one and the ſame are equal to each other*, is a common conception, which not only the arithmetician employs, but every one endued with ſcience, accommodating that which is common to his own particular matter. But Ariſtotle (as we have before obſerved*) ſays, that petition, ſince it is demonſtrable, is not granted by the hearer, yet is received as a principle: but that axiom is of itſelf indemonſtrable, and that this is confeſſed by all, according to habit, though ſome, for the ſake of diſputation, have doubted its evidence. Since then, there are theſe three differences, according to the firſt, which by operating, and knowlege only diſtinguiſhes petition from axiom, it is manifeſt that that which ſays *all right angles are mutually equal, is not a petition*. Nor the fifth, which ſays, *if a right line falling on two right lines makes the internal angles towards the ſame parts leſs than two right, thoſe right lines infinitely produced, ſhall coincide towards the parts in which the angles leſs than two right ſubſiſt*. For theſe are neither aſſumed in conſtruction, nor do they command any thing to be done: but they exhibit a certain *ſymptom*, inherent in right angles, and in right lines, departing from

* See the ſecond ſection of the Diſſertation, Vol. I.

angles

angles leſs than two right. But, according to the ſecond difference, that will not be an axiom which ſays, that *two right lines cannot comprehend ſpace*, which ſome at preſent conſider as an axiom. For this is proper to the geometric matter, as likewiſe that which affirms *that all right angles are equal*. But according to the third difference, which is Ariſtotelic, all thoſe which produce their own credibility by a certain demonſtration, are petitions; but whatever are indemonſtrable, are axioms. Apollonius, therefore, in vain endeavours to deliver the demonſtrations of axioms: for Geminus very properly obſerves, that ſome have attempted demonſtrations of indemonſtrables, and have endeavoured from more unknown mediums, to prove things manifeſt to all, into which error Apollonius has fallen, who wiſhes to prove the axiom true, which ſays, *that things equal to one, and the ſame, are equal to each other:* but that others aſſume in the place of indemonſtrables, things requiring demonſtration. As is the caſe with Euclid himſelf, in the fourth and fifth petition. For ſome ſay, that this laſt, as ambiguous, requires demonſtration. Indeed, is it not ridiculous, that theorems ſhould be aſſigned as indemonſtrable, the converſe of which are demonſtrable? For that the internal angles of coincident right lines are leſs than two right, Euclid himſelf ſhews in the theorem, which ſays, *that two angles of every triangle, however taken, are leſs than two right*: beſides, it may be perſpicuouſly ſhewn, that not every thing equal to a right angle is a right angle. Hence, ſays Geminus, the converſe of theſe are not to be granted indemonſtrable. It ſeems therefore, according to the ordination of this man, that there are, indeed, three petitions: but that the other two, and the converſe of theſe, require demonſtrating ſcience: and that in the axioms, the one which ſays, that two right lines cannot comprehend ſpace, is ſuperfluouſly added, ſince its credibility muſt be derived from demonſtration. And thus much concerning the difference of petitions and axioms. Again, of axioms, ſome are proper to arithmetic, but others to geometry; and others are common to both: for that which ſays, *every number is meaſured by unity*, is an arithmetical axiom. But that which ſays *equal right lines agree amongſt themſelves*, as alſo this which affirms *that every magnitude is diviſible in infinitum*, are geometrical axioms:

axioms: but the one which ſays *that things equal to the ſame, are mutually equal*, and all of this kind are common to both. However, it muſt be obſerved, that each ſcience uſes ſuch as the laſt, according to its proper ſubject; as geometry in magnitudes, but arithmetic in numbers. In like manner of petitions, ſome are peculiar to particular ſciences, but others are common to all. For you muſt call the petition which requires to be granted, *that a number may be divided into the leaſt parts*, peculiar to arithmetic: but this, *that every finite ſtraight line may be produced ſtraight forwards*, peculiar to geometry; and the one which deſires us to grant, *that quantity may be infinitely increaſed*, common to both; for this paſſion is equally found to reſide in number and magnitude.

PETITIONS or POSTULATES.

I.

Let it be granted that a ſtraight line may be drawn from any one point to any other point.

II.

That a terminated ſtraight line may be produced to any length in a ſtraight line.

III.

And that a circle may be deſcribed from any centre, at any diſtance from that centre.

According to the opinion of Geminus, theſe three are neceſſarily placed among petitions, as well on account of their facility, as becauſe they command us to do ſomething. For this, *to draw a right line from every point, to every point*, follows the definition, which ſays, *that a line is the flux of a point*, and a right line *an indeclinable and inflexible flow*. If then we conceive a point to be moved with an uninclined, and the ſhorteſt motion, we ſhall fall upon another point, and the firſt petition will be produced, and we ſhall underſtand nothing various or difficult. But if when the right line itſelf is terminated by a point, we conceive its extremity moved with the ſhorteſt indeclinable motion,

motion, the ſecond petition will ariſe from an eaſy and ſimple apprehenſion. But if we again imagine that the terminated right line abides according to its other extreme, but that it moves about that which abides according to the reſt, the third petition will be produced; for the centre is the point which abides, but the interval the right line. Since the diſtance of the centre, from all parts of the circumference, is always equal to the quantity of this interval. But if any one ſhould doubt how we apply motion in geometrical concerns, which have an immoveable exiſtence; and how we can move impartibles, (ſince this is impoſſible) we requeſt him to call to mind what we have demonſtrated in the beginning of theſe Commentaries. I mean that the reaſons of things ſubſiſting in the phantaſy, deſcribe there all the images of cogitation, of which cogitation itſelf poſſeſſes the reaſon: for an intellect of this kind is an unwritten, ultimate, and paſſive tablet. Hence, it receives forms from another, accompanied with motion; but we muſt not underſtand a corporeal but imaginative motion, and muſt by no means admit that impartibles are moved with corporeal motions, but that they ſuffer imaginative progreſſions. For intellect, though impartible, is moved, yet not according to place, and the phantaſy has a proper motion according to the impartible which it contains: but we only regarding corporeal motions, neglect theſe which are made in things deſtitute of interval Impartibles, therefore, are pure from corporeal place, and external motions: but another ſpecies of motion, and another place congenial to ſuch motions, is conſidered in their progreſſions. For, indeed, we ſhould ſay, that a point alſo has poſition in the phantaſy, and ſhould not enquire how an impartible can abide, which is at the ſame time moved elſewhere, and comprehended by place. Since the place of things, with dimenſion, poſſeſſes itſelf dimenſion; but the place of impartibles is deſtitute of all dimenſion. The proper ſpecies therefore of geometrical concerns, are different from the things they produce; and the motion of bodies is different from that of the forms in the phantaſy; and the place of partible is different from that of impartible natures; and it is requiſite, by diſtinguiſhing theſe, neither to confound nor diſturb the eſſences of things. But it appears that the firſt of theſe three petitions declares to us in images,

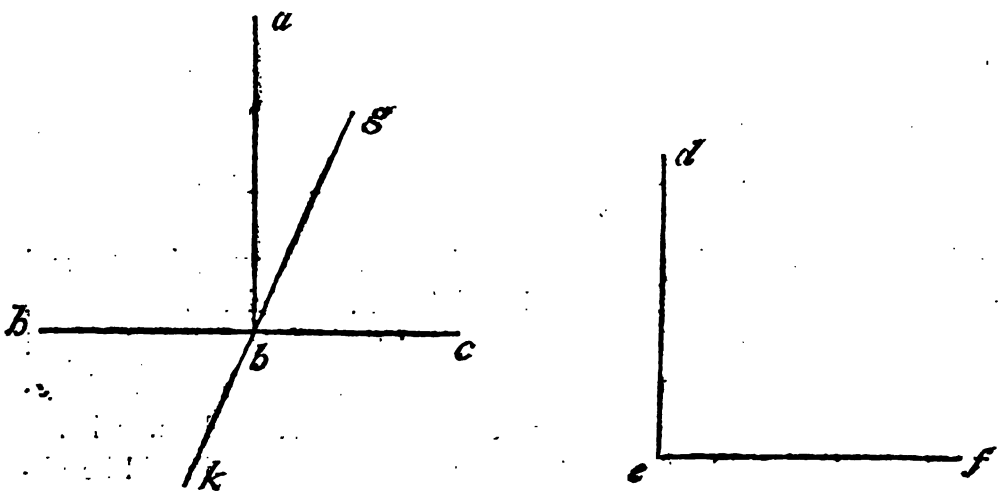
images, how the *things which are*, are contained in their own impartible cauſes, and are terminated by their immaterial bound; and that previous to their conſtitution, they are on all ſides comprehended in their indiviſible embrace: for the points exiſting, a right line is drawn from the one to the other, is terminated by, and received between them. But the ſeeond indicates how *the things which are* by poſſeſſing proper cauſes proceed to all things, preſerving in them a continuation not derived from the natures into which they proceed; but that through a cauſe of infinite power, they endeavour to permeate every where, with a never-failing progreſſion. And the third petition ſhadows forth the manner in which theſe progreſſions return again to their proper principles: for the convolution of a point producing a circle, by moving about an abiding point, imitates a circular regreſſion. But it is requiſite to know, that every line cannot be infinitely produced, for the circle and ciſſoid, and all ſuch as deſcribe figure, are incapable of this property; as likewiſe ſome which produce no figure. For the helix of one revolution cannot be infinitely produced, ſince it is conſtituted between two points; nor any other lines ſimilarly formed. But neither is it poſſible to extend every line from every point, to every point; for every line cannot ſubſiſt between all points: and thus much for the three firſt petitions; let us now proceed to the reſt.

IV.

All right angles are equal to each other.

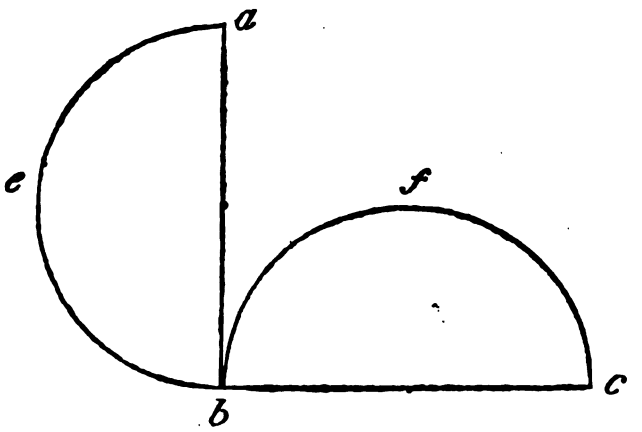
If the preſent petition is conſidered by us as manifeſt, and as requiring no demonſtration, it is not a petition according to the opinion of Geminus, but an axiom; for it affirms a certain eſſential accident of right angles, not commanding us to perform any thing according to a ſimple conception. But neither is it a petition according to the diviſion of Ariſtotle: for petition, according to his opinion, requires ſome demonſtration. But if we ſhould ſay it is demonſtrable, and enquire after its demonſtration, yet according to the opinion of Geminus, it ought not to be placed among petitions. The equality, therefore, of right angles, appears from our common conceptions; for ſince a right angle has the relation of unity or bound to the infinite increaſe

and decreaſe of the angles on each ſide, it is equal with reſpect to every right angle, ſince we conſtitute the firſt right angle after this manner, by a right line making angles on each ſide of the right line on which it ſtands equal to each other; but if it be requiſite to produce a linear demonſtration of this, let there be two right angles, one *a b c.* the other *d e f.*

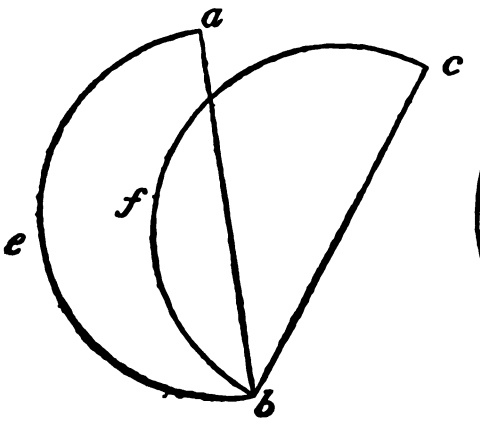


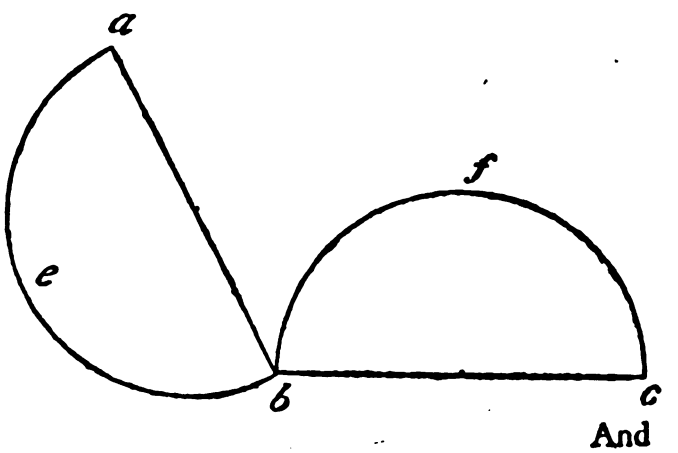
I ſay that they are equal; for if they are not equal, one of them muſt be greater, ſuppoſe the angle at *b.* If then the line *d e* be adapted to the line *a b*, the line *e f* ſhall fall within. Let it fall as *b g*, and let the line *b c* be produced to *h*; becauſe, then *a b c* is a right angle, *a b h* alſo ſhall be a right angle, and they ſhall be mutually equal to each other, from the tenth Definition: the angle *a b b* therefore, is greater than the angle *a b g.* Let again the line *g b* be produced to *k*, becauſe, therefore *a b g* is a right angle, the ſucceſſive angle *a b k* ſhall be a right one, and conſequently equal to *a b g.* Hence, the angle *a b b*, ſhall be leſs than the angle *a b g*; but it was alſo greater, which is impoſſible: but this has been ſhewn by other expoſitors, and requires no great conſideration. But Pappus very properly admoniſhes us, that the converſe of this Petition is not true; I mean, that every thing equal to a right angle, is a right angle; though if it be rectelinear, it is without doubt a right angle. But a curvilinear angle may alſo be exhibited equal to one that is right: for let there

be conceived two equal right lines, *a b*, and *b c*, making the angle at the point *b*, right;



and on them let the ſemicircles *a e b*, *b f c*, with a proper centre and interval be deſcribed; becauſe, therefore, the ſemicircles are equal, they ſhall have a mutual congruence, and the angle *e b a*, is equal to the angle *f b c*, and *a b f* is common: the whole right angle, therefore, is equal to the lunular, i. e. to *e b f*, and yet the lunular is not a right angle. In the ſame manner, if the angle *a b c* ſhould be obtuſe or acute, a lunular angle may be ſhewn equal to it (for this is that genus of curvilinear angles which agrees with ſuch as are rectilinear), only this is to be obſerved, that in a right and obtuſe angle, it is requiſite to add the middle angle, which is contained by the line *a b*, and the circumference *b f*; but in an acute angle to take this away: for the right line *c b*, in theſe caſes, cuts the circumference *b e*. The truth of which, will be evident from the following figures:





And

And hence, it appears, that all right angles are mutually equal to each other, and that not every thing equal to a right angle, is conſequently a right ang'e: for if it be not rectilinear, how can it be called right. But it is alſo manifeſt from this Petition, that angular rectitude is allied to equality, in the ſame manner as acuteneſs and obtuſeneſs are related to inequality. For rectitude and equality, as alſo ſimilitude, are of the ſame co-ordination, (for each exiſts under bound): but acuteneſs and obtuſeneſs, as alſo diſſimilitude, are of the ſame ſeries with inequality. For they are all produced from *bound* and *infinite*. Hence ſome, regarding the quantity of angles, ſay, that a right angle is equal to a right: but others, conſidering their quality, affirm that one is ſimilar to another. For ſimilitude in qualities is the ſame as equality in quantities.

V.

If a right line falling upon two right lines, makes the internal angles towards the ſame part leſs than two right, thoſe right lines, if infinitely produced, ſhall coincide in that part, in which the angles leſs than two right, are placed.

This ought to be entirely blotted out from the numberof Petitions, for it is a theorem including many doubts, which Ptolemy in one of his books propoſes to ſolve; but it requires in its demonſtration both many definitions and theorems; and Euclid alſo exhibits its converſe as a theorem. But perhaps ſome, from an erroneous conception, may think that this ſhould be placed among the petitions, as that which produces credibility of itſelf, reſpecting the inclination of right lines, on account of the diminution of two right angles. To ſuch as theſe, Geminus rightly anſwers, that from the authors of this ſcience, we learn not entirely to give credit to imaginative probabilities, for the purpoſe of accompliſhing geometrical reaſons: for it is ſimilar (ſays Ariſtotle) to require demonſtrations from a rhetorician, and patiently liſten to a geometrician, diſputing from probability. And Simmeas in the Phædo of Plato, ſays, "I know that thoſe who demonſtrate from appearances, are vain." Hence, in the preſent inſtance, it is true and neceſſary that right lines ſhould incline, while right angles are diminiſhed: but this, that the inclining lines, while they are more

more produced, ſhould at length coincide, is probable, but not neceſſary, unleſs ſome reaſon demonſtrates that this is true in right lines: for there are certain lines infinitely inclining, and never coinciding, and though this appears incredible and admirable, yet it is true, and has been obſerved in other forms of a line. Is it therefore poſſible that this can be accompliſhed in right lines which takes place in others? For before we procure conviction of this, from demonſtration, the properties exhibited in other lines moleſt the phantaſy by the contrary images they produce. But if the reaſons doubting againſt the coincidence of lines are very ſtrong, ought we not much more to expel this improbable and irrational ſuppoſition from our doctrine? And thus it appears that a demonſtration is to be ſought for of the preſent theorem, and that it is foreign from the property of Petitions: but how it is to be demonſtrated, and by what reaſons the objections urged againſt it are to be removed, we ſhall ſhew in our comment on the propoſition, where it is uſed by the inſtitutor of the elements as manifeſt. For then it will be neceſſary to exhibit its evidence, ſince it does not preſent itſelf to our view with indemonſtrable clearneſs, but becomes manifeſt through the medium of demonſtration alone.

AXIOMS.

I.

Things which are equal to the ſame, are equal to one another.

II.

If equals be added to equals, the wholes are equal.

III.

If equals be taken from equals, the remainders are equal.

IV.

If equals are added to unequals, the wholes are unequal.

V.

If equals be taken from unequals, the remainders are unequal.

VI.

Things which are double of the ſame, are equal to one another.

VII.

VII.

Things which are halves of the ſame, are equal to one another.

VIII.

Things which coincide with each other, are mutually equal.

IX.

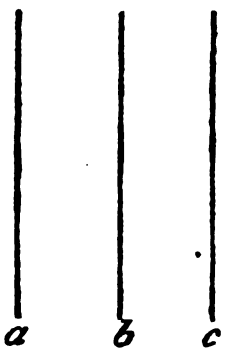
The whole is greater than its part.

X.

Two right lines cannnot comprehend ſpace.

Theſe are the things which, according to the opinion of all men, are called indemonſtrable axioms, ſo far as their certainty is admitted by all, and no one diſputes their evidence. For propoſitions alſo are often ſimply called axioms, of whatever kind they may be, whether they are immediately proper, or require ſome declaration; and the Stoics, indeed, are accuſtomed to call every ſimple enunciative ſpeech an axiom: and when they write on dialectic arts, they ſay that they diſcourſe on axioms. But ſome, diſtinguiſhing more accurately axioms from other propoſitions, give this appellation to a propoſition immediate, and producing credibility of itſelf, on account of its evidence: as alſo Ariſtotle and geometricians themſelves affirm. For, according to the opinion of theſe, an axiom is the ſame as a common conception. By no means, therefore, muſt we praiſe Apollonius the geometrician, who writ (as it appears) demonſtrations of axioms, becauſe he performs the very oppoſite to Euclid: for he, indeed, enumerates that which is demonſtrable among Petitions; but Apollonius endeavours to find out demonſtrations of indemonſtrables. But theſe naturally differ from each other, and the genus of the ſciences is different: I mean of the things which take place about immediate propoſitions, which are entirely ſubject to our knowlege, on account of their evidence; and of things which uſe demonſtrations, which receive principles from them; and which, when received, they orderly employ in their proper concluſions. But that the demonſtration of the firſt axiom, which Apollonius perſuades himſelf he has invented, poſſeſſes a medium, not more known, but more dubious than the con-

cluſion may be known by any one from a ſlight inſpection. For let (ſays he) *a* be equal to *b*, and *b* to *c*, I ſay that *a* alſo is equal to *c*.



For ſince *a* is equal to *b*, it occupies the ſame place as *b*. And becauſe *b* is equal to *c*, it occupies the ſame place as *c*; and ſo *a* occupies the ſame place as *c*, they are therefore equal. Now in this demonſtration it is requiſite that two things muſt be previouſly aſſumed; one, that things occupying the ſame place, are mutually equal; but the other, that things occupying the ſame place, with the ſame thing, mutually occupy the ſame place: but theſe are evidently more obſcure than the preſent axiom. For it is proper to enquire how are thing, which fill the ſame place equal, according to the whole, or according to a part; or according to a figure of ſpeech: hence we muſt by no means admit a tranſition to place,* which is more unknown than the

* The nature of place has been a ſubject of much curious and deep ſpeculation to the Peripatetic and Platonic philoſophers, as may be ſeen in the very valuable Commentaries of Simplicius on Ariſtotle's Phyſics; ſo that Proclus does not affirm without reaſon, that place is more obſcure than the natures it contains. But as the opinion of our philoſopher, concerning place, is ſo admirably profound, ſubtle, and remarkable, I perſuade myſelf the following tranſlation from the fourth book of Simplicius on the Phyſics, containing his ſentiments at large on this ſubject, will not be unacceptable to the liberal Engliſh reader. "Proclus (ſays Simplicius) having proved from the arguments of Ariſtotle, that place is neither matter nor form, concludes, that it is a certain interval:" after which, he reaſons as follows. "This interval then, is either, nothing or ſomething; and if nothing, local motion will conſiſt in a tranſition from nothing to nothing; but all motion ſubſiſts according to ſomething. But if it ought to be called ſomething, it is either corporeal or incorporeal; and if incorporeal, an abſurdity will enſue; for it is neceſſary that place ſhould be equal to the thing placed. But how can body, and that which is incorporeal be equal? For equal is found in quantities, and eſpecially in thoſe of a ſimilar kind, as lines are equal to lines, ſuperficies to ſuperficies, and bodies to bodies: place, therefore, is body, if it be a certain interval; but if body, it is either moveable or immoveable; and if moveable, in whatever manner it may be moved, it muſt neceſſarily be moved according to place,

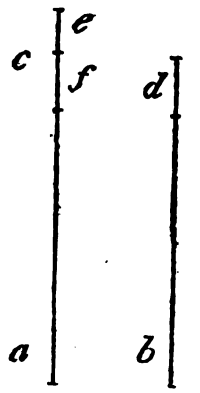
to

the natures it contains ; for the invention of its eſſence is difficult and ambiguous. That we may avoid prolixity, therefore, all axioms are to be delivered as things immediate and ſelf-manifeſt, ſince they are of themſelves known and credible; for he who brings demonſtration to things the moſt manifeſt, does not confirm their truth, but diminiſhes the evidence we poſſeſs in the untaught and innate conceptions of the ſoul: but this is to be received concerning axioms, as a judgment of their peculiarity; and that all of them are of the common kind of the mathematical ſciences; and that each of them is ſaid to be verified,

ſo that place again will require another place, which is impoſſible, as was alſo evident to Ariſtotle and Theophraſtus; for Ariſtotle ſays, that a veſſel is a moveable place, but place an immoveable veſſel, becauſe place is naturally immoveable. But if it be immoveable, it is either indiviſible, which cannot be divided by the bodies entering its receptacle, ſince one body cannot penetrate another; or it is diviſible, as air and water are divided by the bodies entering into their yielding natures; but if it be diviſible, the whole being diſſected or divided, the divided parts will be moved on each ſide, and place will be the firſt mutable, ſince its parts are moved; but we have demonſtrated that it is immoveable. Again, the parts being ſeparated, we aſk where that which is divided betakes itſelf; for there muſt be again given or inveſtigated another interval, intervening between the divided parts, which may receive and be placed together with that which is divided; and this will be the caſe, in infinitum. Place, therefore, is an indiviſible body; and if an indiviſible body, either material, or deſtitute of matter: but if material it will not be indiviſible, for it is requiſite that all material bodies, when permeated by other material bodies, ſhould be divided by them, as is the caſe with our bodies when they fall into water. But immaterials alone reſiſt all diviſion and this from a neceſſity of nature; for every body deſtitute of matter is void of paſſion; but every thing which is divided likewiſe ſuffers. Since diviſion is a certain affection of bodies, which extirpates and deſtroys their unity and connection; for that which is continuous, ſo far as continuous ſuffers no other affection or moleſtation than ſection, which deſtroys and takes away its continuity. That we may therefore collect together what we have ſeparately demonſtrated, place is an immoveable indiviſible body, deſtitute of matter. And if this be admitted, it is evident that it is a body by far leſs material than the reſt, and indeed leſs than the matter contained in things which are moved. Hence, if light is the moſt ſimple of theſe (for fire is more incorporeal than the other elements, and fire is lucid) it will be manifeſt, that ſince light is the pureſt among the reſt, light will be place. Conceive, therefore, two ſpheres, of which one is compoſed from many bodies, and the other of light alone, and let both be of equal bulk; then, by eſtabliſhing the ſphere of light, together with the centre, and giving the compoſite ſphere a revolution in the circumſcribing ſphere of light, you will perceive the world moved in immoveable light, and according to its whole extenſion, immoveable, ſimilar to place, but moved according to its parts, becauſe theſe are leſs than place." Now, from this demonſtration of Proclus, it follows by a neceſſary conſequence, ſince contraries are contained under the ſame genus that darkneſs, if it be any thing poſitive, is the moſt material of all bodies; and hence, the moſt material natures will participate the moſt of darkneſs, as indeed, is evident in the elements of earth and water. It likewiſe follows that whatever exiſts in perfect darkneſs, exiſts out of corporeal place, which, however paradoxical, is perhaps, no leſs true than wonderful to conceive.

not only in magnitudes, but alſo in numbers, and motions, and times: and this indeed is neceſſary. For equal and unequal, the whole and part, and the more and the leſs, are common to diſcreet and continued quantities. The contemplation, therefore, which is converſant with times and motions, numbers and magnitudes, requires all theſe, as things evident by their own intrinſic light; and in all of them both that is true, which ſays, *things equal to the ſame, are equal to one another*; as likewiſe each of the axioms we have aſſumed: but as they exiſt in common, each ſcience uſes them according to its proper matter, and one indeed, as in magnitudes; but another, as in numbers; and another, as in times; and after this manner in each ſcience, the concluſions become peculiar and appoſite, though the axioms are common. Beſides, it is likewiſe requiſite not to contract the number of theſe to the leaſt, as is done by Heron, who only eſtabliſhes three axioms; for this alſo is an axiom, *the whole is greater than its part*, and the geometrician every where aſſumes this in his demonſtrations; as alſo, that *things which mutually coincide, are equal*; for this is employed with advantage in the ſolution of the fourth Propoſition. Nor is it proper to join ſome with others, of which ſome are proper to the geometric matter, as *that two right lines cannot comprehend ſpace*, (ſince axioms are, as we have ſaid, of a common kind); but others are conſequent to things eſtabliſhed, as that which ſays, *things double of the ſame, are equal.* For this is conſequent to the axiom, affirming, that *if to equals you add equals, the wholes are equal*, ſince things equal to the half, becauſe they aſſume the half, become double to the ſame, and mutually equal, on account of an equal addition: and according to this reaſon, not only the doubles, but alſo the triples, and all multiples of the ſame quantity will appear equal. But with theſe axioms, Pappus ſays, that certain others are to be claſſed, as *if unequals are added to equals, the exceſs of the whole, will be equal to the exceſs of the adjuncts.* And on the contrary, *if equals are added to unequals, the exceſs of the wholes is equal to the exceſs or difference of the unequals themſelves.* And theſe alſo are manifeſt from themſelves, yet they may

may be made manifeſt as follows. Let *a* be equal to *b*, and add to



each the unequals *c d*, but let *c* be greater than *d* by *e*, and the remainder be *f*; becauſe, therefore, *a* is equal to *b*, and alſo *f* to *d*; *a f* will be equal to *b d*. For if equals are added to equals, the wholes are equals: *a c*, therefore, exceeds *b d*, by *e* only, by which alone *c* exceeds *d*. Again, *c* and *d* are unequals, to which, let the equals *a* and *b* be added, and let *e* be the exceſs of *c*, above *d*, and the remainder be *f*; becauſe, therefore, *a* is equal to *b*, and *f* to *d a f* will be equal to *b d*; the whole, therefore, *a c*, will exceed *b d*, by *e* only, by which *c* alſo exceeds *d*. Theſe, therefore, are conſequent to the aforeſaid axioms, and are, not undeſervedly, in many copies, omitted. But whatever others he adds to theſe, have been previouſly aſſumed by definitions, to which they are conſequent. As for example: *that all the parts of a plane and a right line mutually agree*; for things placed in their extremities, poſſeſs a nature of this kind; and *that a point divides a line, but a line a ſuperficies, and a ſuperficies a ſolid*. For all things are divided by the natures by which they are proximately bounded; and *that infinite ſubſiſts in magnitudes, by addition and diminution, but according to capacity only, in both theſe reſpects*: for every thing continuous may be infinitely divided and increaſed. But, as we have ſummarily ſpoken concerning theſe, it remains that we conſider things conſequent to principles; for thus far principles extend themſelves. But of thoſe who oppoſe geometry, ſome very much doubt concerning principles, endeavouring to ſhew that the terms have no ſubſiſtence, whoſe arguments, indeed, are

known in common, who endeavour to take away all ſcience, and, like hoſtile foes from a foreign region, demoliſh the fruits and fecundity of philoſophy, as is the caſe with the Pyrrhonian philoſophers; but others only propoſe to themſelves the ſubverſion of geometrical principles, as the Epicureans. Others, again, admitting the principles, affirm, that things conſequent to the principles cannot be demonſtrated, unleſs ſomething elſe is granted, which was not previouſly aſſumed in the principles. Zeno exerciſed this mode of contradiction, who was a Sidonian by birth, but of the Epicurean ſect, againſt whom Poſſidonius wrote an entire book, exhibiting the whole of his imbecile opinion; and thus much may ſuffice for the difference of opinions concerning principles. We ſhall ſhortly conſider the troubleſome objection of Zeno: but now, after we have briefly reſumed the conſideration of theorems and problems, their difference, and the diviſions they receive, we ſhall proceed to an expoſition of the things exhibited by the inſtitutor of the elements, gathering the more beautiful obſervations upon the propoſitions found in the writings of the antients, and contracting the infinite prolixity of their diſcourſes; but delivering ſuch things as are more artificial, and full of methods producing ſcience, dwelling more on an accurate treatiſe of things than on the variety of caſes and aſſumptions, to which young men, for the moſt part, eagerly incline.

PROPOSITION I. Problem.

Upon a given terminated right line to deſcribe an equilateral triangle.

Since all ſcience is two-fold, and one is converſant about immediate propoſitions, but another about things, which are exhibited and provided from the propoſitions, and univerſally about the conſequents to principles; this, again, divides itſelf in geometrical diſcourſes, into the ſolution of problems, and the invention of theorems. And problems, indeed, geometry denominates things in which it propoſes to procure, manifeſt, and fabricate that, which, in a certain reſpect, has no exiſtence; but it calls theorems, things in which it appoints to perceive,

perceive, know, and demonſtrate that which either exiſts, or does not exiſt. For problems command us to undertake the origin, poſitions, applications, deſcriptions, inſcriptions, circumſcriptions, coaptations, and contacts of figures, and every thing of this kind: but theorems endeavour to procure our aſſent to ſymptoms, and things eſſentially inherent in the ſubjects of geometry, and to convince by demonſtrations. For geometry diſcourſes concerning every object of enquiry, which is poſſible to be effected, referring ſome things to problems, but others to theorems; ſince it enquires concerning the *what*, in a two-fold reſpect: for it either ſeeks for the reaſon and intelligence of the thing; or for intelligence, and the eſſence of the ſubject. I ſay, for example, as when it requires what a line of ſimilar parts may be: for in an enquiry of this kind, it either deſires to find the definition of ſuch a line, as, *that a line of ſimilar parts is that which has all its parts agreeing with all*; or to receive the ſpecies of lines of ſimilar parts, as that it is either *right*, or *circular*, or a *cylindric helix*. Beſides, prior to this, it enquires, by itſelf, concerning the *if*, and this eſpecially in its determinations, agitating, whether the object of its enquiry is poſſible or impoſſible, what place it poſſeſſes, and in how many ways. It likewiſe ſeeks concerning the *what kind*; for when it conſiders the eſſential accidents of a triangle, circle, and parallels, it is manifeſt, that in ſuch caſes it ſeeks after the *what kind*; but many have thought that geometry very little contemplated the *cauſe*, and *the why*. And of this opinion is Amphinomus, led by the deciſions of Ariſtotle: but (ſays Geminus) an enquiry into theſe may be found in geometry. For does it not belong to geometry to enquire for *what cauſe* infinite equilateral multangles may be inſcribed in circles, but to deſcribe ſolid equilateral and equiangular multangles, and conſtructed from ſimilar planes, in ſpheres, is impoſſible? To whom does an inveſtigation of this kind belong, except to a geometrician? When, therefore, to geometricians the ſyllogiſm is by an impoſſibility, they alone deſire to find the ſymptom; but when by a principal demonſtration, then again if the demonſtrations are in that which is particular or partial, the cauſe is not yet manifeſt; but if in that which is univerſal, and in all ſimilars, the *why* becomes immediately manifeſt: and thus much concerning objects of enquiry.

But every problem and theorem which receives its completion from its own perfect parts, ought to poſſeſs in itſelf all the following parts: *propoſition*, *expoſition*, *determination*, *conſtruction*, *demonſtration*, and *concluſion*. But of theſe, *propoſition* informs us what the object of enquiry is from a given datum; for a perfect propoſition is compoſed from both; but *expoſition* receiving the datum eſſentially, prepares for the queſtion. Again, *determination* ſeparately explains the thing ſought for according to the *what*; but *conſtruction* adds to the datum what is wanting to the inveſtigation of the thing ſought; and *demonſtration* ſkilfully collects the propoſition from the conceſſions. But the *epilogue*, or concluſion, is again converted to the propoſition, by confirming that which is exhibited. And ſo many, indeed, are all the parts of problems and theorems; but *propoſition*, *demonſtration*, and *concluſion*, are eſpecially neceſſary, and exiſt in all; for it is requiſite that the thing ſought for ſhould be previouſly known, and that this ſhould be ſhewn by proper mediums, and that what is exhibited ſhould be concluded; and it is not poſſible that any one of theſe three can be wanting; but the reſt are, indeed, received in many places; but in many, becauſe they produce no utility, are omitted. For *determination* and *expoſition* are not found in the problem, which ſays, *to conſtruct an iſoſceles triangle, which will have each of the angles at the baſe double of the other*; but *conſtruction* has frequently no ſubſiſtence in many theorems, the demonſtration being ſufficient to exhibit the thing propoſed from the data, without any addition. When, therefore, ſhall we ſay that *expoſition* fails, when no datum is given in a propoſition? Becauſe, though *propoſition*, for the moſt part, is divided into *datum*, and *the thing ſought for*, yet this is not always the caſe; but ſometimes *the thing ſought for*, alone affirms that which it is requiſite to know or effect, as in the aforeſaid problem; for it does not previouſly ſay from what datum it is requiſite to conſtruct an iſoſceles triangle, which ſhall have each of the angles at the baſe, double of the remaining one; but that it is required to effect this. And here, indeed, the admiſſion of the propoſition takes place from things previouſly known; for we muſt know the meaning of the terms *iſoſceles*, *equal* and *double* (ſince this, as Ariſtotle obſerves, is

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the property of all ratiocinative diſcipline*), yet nothing is ſubjected to us as in other problems, as in that which ſays, *to biſect a given terminated right line.* For here the right line is given, but we are ordered to divide it into two parts; and the datum is ſeparately determined from the object of enquiry. When, therefore, a propoſition has both of theſe, then alſo *determination* and *expoſition* are found; but when the datum is deficient, theſe alſo fail, ſince *expoſition* and *determination* belong to the datum: for this will be the ſame with the propoſition. Indeed, what elſe do we ſay, when determining in the aforeſaid problem, unleſs that it is requiſite to find an iſoſceles of this kind? But ſuch was the propoſition: if then the propoſition has neither this *datum*, nor *thing ſought*, *expoſition* will, indeed, be ſilent, becauſe there is no datum; but *determination* will be neglected, leſt it ſhould become the ſame with the *propoſition*: but you may find many other problems of this kind, eſpecially in arithmetic, and in the tenth book of theſe Elements, as, *to find a medium comprehending two right lines commenſurable in power, and every thing of this kind.*

But every datum may be given in theſe four modes, either in *poſition*, or *proportion*, in *magnitude* or *form*; for a point, indeed, is given in *poſition* only, but a line and the reſt in all the four. Thus, when we ſay, *to biſect a given rectilineal angle*, we declare the ſpecies of the angle given, as that it is right lined, leſt we ſhould alſo ſeek to biſect a curvilinear angle by the ſame methods. But when we ſay, *from the greater of two unequal right lines, to cut off a part equal to the leſs*, the lines are given in magnitude; for the leſs and the more, finite and infinite, are the proper predications of magnitude. But when we ſay, that *if four magnitudes are proportional, they ſhall be alſo alternately proportional*, the ſame proportion is given in the four magnitudes: but when it is requiſite, *from a given point to place a right line equal to a given right line*, then the point is given in poſition. From whence, ſince poſition may be various, conſtruction alſo receives variety; for the point is given either without the right line, or in the right line, and in the extremity, or without the ex-

* See Section ſecond, of the Diſſertation, in Vol. I. of this work.

tremity

tremity of the right line. Since, therefore, a datum has a four-fold acceptation, it is manifeſt, that expoſition alſo is four-fold; but ſometimes it connects two or three modes. Again, we find that demonſtration ſometimes poſſeſſes things proper to demonſtration, exhibiting the thing ſought for from mediate definitions; for this is the perfection of demonſtration, but that ſometimes it argues from certain ſigns. And it ought not to be concealed, that geometrical diſcourſes have every where that which is neceſſary, on account of the ſubject matter, but are not every where perfected by demonſtrative methods. For when, becauſe *the external angle of a triangle is equal to the two internal and oppoſite ones*, it is ſhewn, that *the three internal angles of the triangle are equal to two right*, how is this demonſtration from the cauſe? And is not a ſign the medium in this caſe? For the external angle not yet exiſting, ſince the internal angles exiſt, they are equal to two right, ſince it is a triangle, though the ſide is not produced; but when, by a deſcription of circles, the triangle, which is conſtituted, is ſhewn to be equilateral, the apprehenſion takes place from the cauſe. For we ſay, that the ſimilitude and equality of the circles is the cauſe of the triangles equality with reſpect to its ſides.

But geometrical diſcourſes are likewiſe accuſtomed to make the concluſion, in a certain reſpect, two-fold. And this, when they exhibit things agreeable to the data, and reaſon univerſally, recurring from a particular concluſion to that which is univerſal; for when they do not uſe the property of the ſubjects, but placing the data before our eyes, deſcribe an angle or right line, they think that which is concluded in this, is to be concluded in every thing ſimilar: they paſs on therefore to *univerſal*, leſt we ſhould think that the concluſion is particular. But their tranſition is effected in the beſt manner, ſince they employ, in demonſtration, *the things placed*, not conſidered as ſuch, but conſidered as ſimilar to others: for it is not becauſe ſuch a particular angle is propoſed that they effect a bipartite ſection, but becauſe it is rectilineal only. But quantity, is indeed, proper to the propoſed angle; but rectilineal is common to all right lines: let then the given angle be a right one. If therefore, we receive rectitude in the demonſtration, we cannot paſs to every ſpecies of right lines; but

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if we do not ſubjoin its rectitude, or being right angled, but alone conſider its being rectilineal, the diſcourſe may be adapted to all right lined angles; and all that we have previouſly obſerved we may contemplate in this firſt problem. For that it is a problem, is evident, ſince it commands us to conſtruct an equilateral triangle: but *propoſition* in this, conſiſts from a *datum* and *thing ſought*. For a terminated right line is given, but it is *enquired* how an equilateral triangle may be conſtructed upon it, and the datum indeed precedes, but the thing ſought follows; ſo that we may ſay, by conjoining the two, *if there be a terminated right line, it is poſſible to conſtruct upon it an equilateral triangle*; for a triangle cannot be conſtructed without the exiſtence of a right line, ſince it is comprehended by right lines; nor upon an unlimited line, for an angle cannot be conſtructed unleſs it is made on one point, but in an infinite line there can be no extremity or bounding point. But after propoſition, *expoſition* follows, as, *let there be given a terminated right line.* And here we may ſee that *expoſition* alone pronounces the *datum*, but by no means ſubjoins *the thing ſought*; but after this we ſhall find *determination: it is required upon the given terminated right line to conſtruct an equilateral triangle*; and here we may obſerve that *determination* is in a certain reſpect, the cauſe of attention, for it makes us more attentive to the demonſtration, by pronouncing the thing ſought, as *expoſition* cauſes us to be more docile, by placing the datum before our eyes. Again, after determination, *conſtruction* follows, *from one extremity of the right line, as a centre, but with the remainder as an interval, let a circle be deſcribed.* And again, *with the other extremity, as a centre, and with the ſame interval, let a circle be deſcribed*; *and from the common point of the ſections of the circles, to the extremities of the right line, let right lines be continued.* And here we may obſerve, that Petitions are uſed in the conſtruction, this for one, *from every point to every point, to draw a right line*; and alſo this, *with every centre and interval to deſcribe a circle*; for univerſally Petitions are the ſources of utility to *conſtructions*, but Axioms to *demonſtrations*; *demonſtration* therefore follows, *becauſe, then each extremity of the given right line is the centre of the circle ſurrounding it, the right line which reaches to the common*

common ſection is equal to the given right line; hence, becauſe the other extremity of the right line is the centre of its containing circle, the right line reaching to the common ſection of the circles, is alſo equal to the given line. And the admonition of theſe, is derived from the definition of the circle, which ſays, that *all lines from the centre to the circumference are equal.* Each of theſe lines, therefore, is equal to the ſame; but *things equal to the ſame, are equal among themſelves*, by the firſt axiom. The three right lines, therefore, are mutually equal; hence, *upon this given right line an equilateral triangle is conſtructed*; and this, indeed, is the firſt *concluſion* which follows the expoſition. But after this, that univerſal one, *upon a given right line, therefore an equilateral triangle is conſtructed*: for whether you make the line double of the one now propoſed, or triple; or receive any one greater or leſs, the ſame conſtructions and demonſtrations will accord. But to theſe he adds the particle *which was required to be done*, ſhewing from hence, that the concluſion is problematical; for in theorems, he adds the particle *which was required to be ſhewn*; the former announcing the production of ſomething, but this the oſtenſion and invention of a thing required. He therefore ſubjoins this to the concluſions, for the purpoſe of ſhewing that every part of the propoſition is accompliſhed by this means, uniting the end with the beginning, and imitating intellect convolved, and again returning to its principle. But he does not always add the ſame, but ſometimes the particle *which was required to be done*, and ſometimes the particle *which was required to be ſhewn*, on account of the difference between problems and theorems: and thus, in this one problem, we have exerciſed and made perſpicuous all this variety of conſiderations. But the reader ought to make a ſimilar enquiry in the reſt; inveſtigating what propoſitions receive theſe leading properties, and in what they are omitted. Likewiſe in how many ways a *datum* is given, and from what principles we receive either conſtructions or demonſtrations; for a perſpicacious contemplation of theſe affords no ſmall exerciſe and meditation of geometrical diſcourſes.

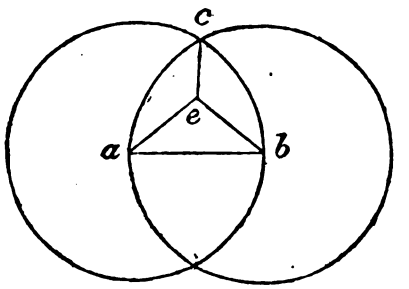
But here it is neceſſary that we ſhould briefly determine the nature of *aſſumption*, *caſe*, *corollary*, *inſtance*, (ἔνστασις) and *induction*. They ſay

ſay therefore that *aſſumption* is often predicated of every propoſition aſſumed in the conſtruction of another propoſition, affirming at the ſame time that the demonſtration of ſuch a propoſition is compoſed from ſo many *aſſumptions*. But *aſſumption*, properly conſidered by thoſe who are converſant in geometry, is a propoſition indigent of credibility; for when either in conſtruction or demonſtration we aſſume any thing which has not been exhibited, but requires a reaſon for its admiſſion, then that which is aſſumed, as of itſelf ambiguous, being conſidered as worthy of enquiry, we call an *aſſumption*; and this differs from Petition and Axiom, becauſe it is demonſtrable, but they are aſſumed without demonſtration, for the purpoſe of giving credibility to others. But the beſt aid in the invention of *aſſumptions*, is an aptitude of cogitation; for we may ſee many naturally acute in ſolutions, and diſcovering them without any method, as was the caſe with our Cratiſtus, who was adapted to the inveſtigation of a thing ſought from the firſt and ſhorteſt methods poſſible; and had a natural promptitude for invention; but there are nevertheleſs certain moſt excellent methods delivered, one which reduces the thing ſought, by reſolution to its explored principle, which, as they ſay, Plato delivered to Leodamas, and from which he is reported to have been the inventor of many things in geometry: but the ſecond is that which has a power of diviſion; becauſe it diſtributes the propoſed genus into articles, but affords an occaſion of demonſtration, by an ablation of other things from the propoſed conſtruction. And this likewiſe is praiſed by Plato, as that which affords aſſiſtance to all ſciences; but the third is that which by a deduction to an impoſſibility, does not of itſelf ſhew the thing ſought, but confutes its oppoſite, and diſcovers the truth by accident; and thus far is the contemplation of *aſſumption* extended. But *caſe* enunciates different modes of conſtruction, and the mutation of poſition, points, or lines, ſuperficies, or ſolids being tranſpoſed; and in fine, all its variety is beheld about deſcription: hence, it is alſo called caſe, becauſe it is the tranſpoſition of conſtruction. Again, *Corollary* is affirmed, indeed, of certain problems, as the Corollaries which are aſcribed to Euclid; but Corollary is properly predicated, when, from the things demonſtrated, a certain unexpected theorem appears, which on this account they have denominated Co-

rollary, as a certain gain, exceeding the intention of demonſtrative ſcience; but *inſtance* impedes the whole paſſage of the diſcourſe, either oppoſing the conſtruction or the demonſtration: and here it is not neceſſary, that as he who propoſes a caſe, ought to ſhew the propoſition true; ſo he who propoſes an *inſtance:* but it is requiſite to deſtroy the *inſtance*, and convict its employer of falſehood. Laſtly, *induction* is a tranſition from one problem or theorem to another, which being known or compared, the thing propoſed is alſo perſpicuous. For example: when the duplication of the cube is inveſtigated, geometricians transfer the queſtion into another to which this is conſequent, i. e. the invention of two mean proportionals, and afterwards they enquire how between two given right lines two means may be found. But Hippocrates Chius is reported to have been the firſt inventor of geometrical induction; who alſo made a quadrangle equal to a lunula, and invented many other things in geometry, and excelled all in his ingenuity reſpecting appellations; and thus much for theſe.

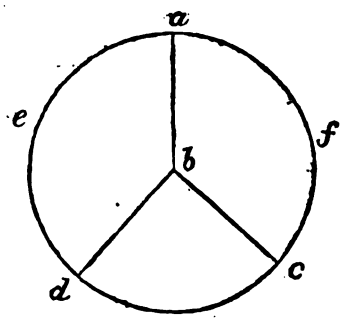
But let us return to the propoſed problem: that an equilateral triangle, therefore, is the beſt among triangles, and is particularly allied to a circle, having all lines from the centre to the circumference equal, and one ſimple line for its external bound, is manifeſt to every one; but the partial comprehenſion of two circles in this problem, ſeems to exhibit in images how things which depart from principles, receive from them perfection, identity, and equality. For after this manner, things moving in a right line, roll round in a circle, on account of continual generation; and ſouls themſelves, ſince they are indued with tranſitive intellections, reſemble by reſtitutions and circumvolutions, the ſtable energy of intellect. The zoogonic or vivific fountain of ſouls too, is ſaid to be contained by two intellects. If, therefore, a circle is an image of the eſſence of intellect, but a triangle of the firſt ſoul, on account of the equality and ſimilitude of angles and ſides; this is very properly exhibited by circles, ſince an equilateral triangle is included in their comprehenſion. But if alſo every ſoul proceeds from intellect, and to this finally returns and participates intellect in a two-fold reſpect; on this account alſo it will be proper that a triangle, ſince it is the ſymbol of the triple eſſence of

ſouls, ſhould receive its origin comprehended by two circles. But ſpeculations of this kind, as from bright images in the mirror of phantaſy, recall into our memory the nature of things. And here, becauſe ſome object to the conſtitution of an equilateral triangle, thinking by this means to overthrow the whole of geometry, let us briefly anſwer and confute them. Zeno then, whom we have mentioned before, ſays, that if any one admits the principles of geometry, yet he will not obtain from common conſent, things conſequent to the principles, while this is not admitted, that there are not the ſame ſegments of two right lines: for unleſs this is given an equilateral triangle cannot be conſtructed. For let there be (ſays he) a right line *a b*, upon which an equilateral triangle is to be conſtructed.



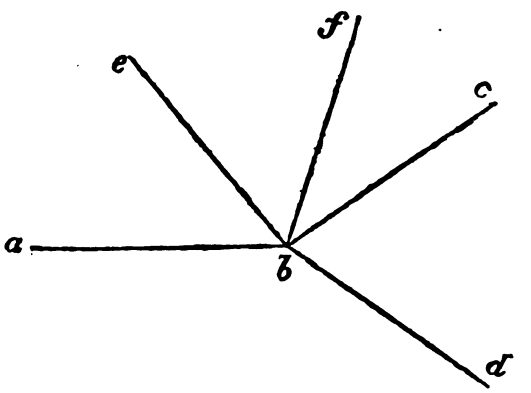
But let circles be deſcribed, and from their common ſection let the right lines *c e a*, *c e b*, be extended, having the common ſegment *c e*. It will therefore happen, that the lines extended from the common ſection, will be equal to the given line *a b*, and yet the ſides of the triangle will not be alſo equal, but two will be leſs than the remainder, that is, than *a b*. And ſo this not being conſtituted, neither can the reſt be conſtructed. Can then (ſays Zeno) the reſt follow, though the principles are given, unleſs this alſo is previouſly received, that there are no common ſegments either of circles or of right lines? Againſt this objection then, we muſt affirm in the firſt place, that it was in a certain reſpect previouſly underſtood, that two right lines have no common ſegment. For the definition of a right line comprehends this property, ſince *that is a right line which is equally ſituated between its bounding points*; and the equality of the interval between the points to the right line, cauſes that which joins the points to be one, and the ſhorteſt line; ſo that if any one adapts it to another line,

according to one of its parts, it muſt alſo agree with the line according to its remaining part; for ſince it is conſtituted in its extremities, becauſe it is the ſhorteſt line, it is neceſſary that the whole ſhould fall on the whole. But again, this was manifeſtly received in the Petitions: for the Petition which ſays, *that a terminated right line may be produced ſtraight forwards*, perſpicuouſly ſhews that the produced line ought to be one, and produced by one motion; but if any one is deſirous to receive a demonſtration of this aſſumption, let, if poſſible, *a b* be the common ſegment of *a c* and *a d*, and with the cen-



tre *b*, and interval *b d*, let the circle *a c d* be deſcribed; becauſe therefore the right line *a b c*, is drawn through the centre, *a f c* is a ſemicircle; and becauſe the right line *a b d* likewiſe is drawn through the centre, *a e d* is a ſemicircle. The ſemicircles, therefore, *a f c*, *a e d*, are equal to each other, which is impoſſible. But againſt this demonſtration Zeno will perhaps ſay, that it is likewiſe requiſite to demonſtrate that the diameter biſects the circle, becauſe we previouſly aſſume that there is not a common ſegment of two circumferences. Thus too we take for granted, that one circumference coincides with another, or if it does not coincide, that it either falls externally or internally. But nothing hinders (he will ſay) that the whole may not coincide with the whole, but according to ſome part. But to this Poſſidonius rightly anſwers, who laughs at the acute Epicurean, as if conſcious that though the circumferences do not coincide according to a part, yet the demonſtration will ſucceed; for according to that part in which they do not coincide, the one will fall within, and the other without, and the ſame abſurdities will follow when right lines are extended from the centre to the external circumference; for thoſe from

from the centre will be equal, as well the greater which is drawn to the external, as the leſs which is extended to the internal circle: either therefore the whole will coincide with the whole, and they will be equal; or coinciding according to a part, it will alternately vary according to the remainder, or no part will coincide with no part; and in this caſe it either falls within or without: but of this, enough. But Zeno alſo condemns the following demonſtration of this particular: Let *a b* be the common ſegment of two right lines *a c*, *a d*, and let *b e* be erected at right angles to *a c*, the angle *e b c*, therefore, is a

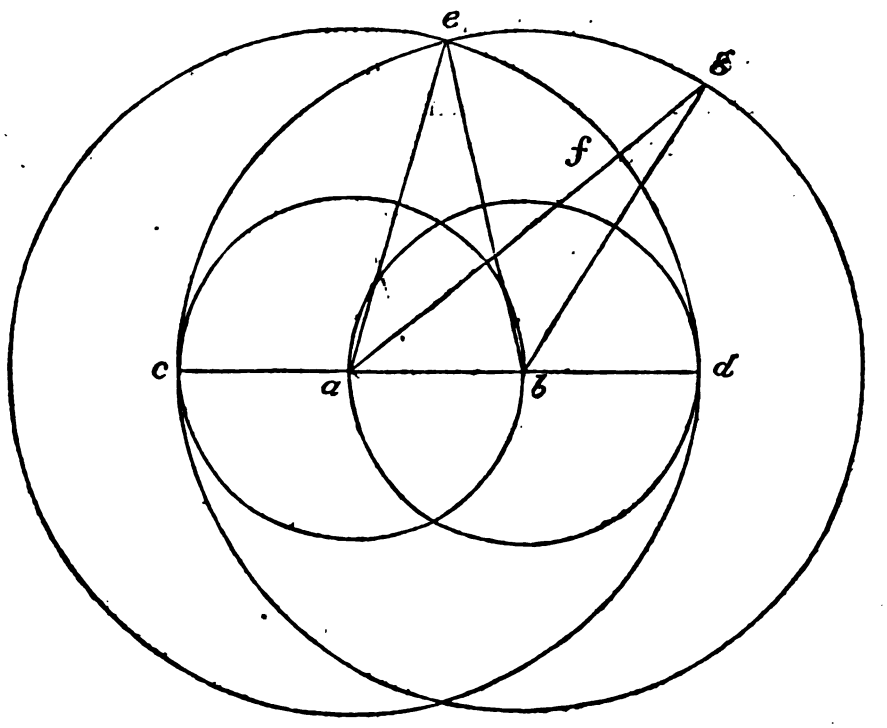


right one. Hence, if the angle *e b d* is alſo right, they ſhall be equal, which is impoſſible; but if not, let *b f* be erected at right angles to *a d*. The angle *f b a*, therefore, is right; but the angle *e b a* was alſo right; and they are therefore mutually equal, which is impoſſible. This is the demonſtration which Zeno oppoſes, as aſſuming that which is to be exhibited afterwards; I mean from a given point to raiſe a right line, at right angles, to a given right line. However, Poſſidonius obſerves, that indeed, a demonſtration of this kind is never to be introduced into elementary inſtitutions; but that Zeno calumniates Geometricians uſing their own as a flagitious demonſtration; though there is ſome reaſon in their conduct. For there are right lines exiſting at right angles; ſince any two right lines are capable of forming a right angle; and this is previouſly aſſumed in our definition of a right angle. For we alone conſtitute a right angle from ſuch an inclination; and it may perhaps be this which we have erected. Indeed, Epicurus himſelf, and all other philoſophers admit,

that

that not only many things poſſible may be ſuppoſed, but likewiſe many of an impoſſible matter, for the purpoſe of contemplating ſomething conſequent; and thus much concerning an equilateral triangle.

But it is requiſite to conſtruct other triangles, and in the firſt place an iſoſceles. Let *a b*, therefore, be a right line, upon which it is re-



quired to conſtruct an iſoſceles triangle. Deſcribe circles as in the conſtruction of an equilateral triangle, and produce the line *a b* on each ſide to the points *c d*; the line *c b*, therefore, is equal to *a d*. Again, with the centre *b*, and interval *c b*, let the circle *c e* be deſcribed; and with the centre *a*, and the interval *d a*, the circle *d e*; and from the point *e*, in which the circles interſect each other, to the points *a* and *b*, let the lines *e a*, *e b*, be extended. Becauſe therefore, *e a* is equal to *a d*; but *e b* to *b c*, and *a d* is equal to *b c*, *e a* will alſo be equal to *e b*; but they are alſo greater than *a b*. The triangle *a b e*, therefore, is iſoſceles, which it was required to conſtitute. But let it be ordered to conſtruct a ſcalene triangle upon the given right line *a b*. Deſcribe circles with centres and intervals, as before, and

let

let there be taken in the circumference of the circle, whoſe centre is *a*, the point *f*, and let the right line *a f* be extended and produced to the point *g*; and likewiſe let the right line *g b* be extended. Becauſe, therefore, *a* is a centre, *a f* is equal to *a d*; and hence, *a g* is greater than *a d*, that is, than *g b*. But *b* alſo is a centre, *g b*, therefore, is equal to *c b*; and hence, *g b* is greater than *b a*: but *g a* is greater than *g b*; the three lines therefore *g b*, *b a*, *a g*, are unequal; and hence, the triangle *a b g* is ſcalene. Hence too, three triangles are conſtructed; but theſe things are commonly known: however, this is beautiful in theſe triangles, that the equilateral exiſting on all ſides equal, is conſtructed by one mode alone; but the iſoſceles, endued with equality in two ſides only, has a two-fold conſtruction: for the given right line is either leſs than both the equal ones (according to our preſent conſtruction), or it is greater than both; but the ſcalene being unequal in all its ſides, receives a triple conſtruction; for the given right line is either the greateſt of the three, or the leaſt; or greater than the one, and leſs than the other; and indeed, it is proper to be exerciſed in each ſuppoſition, either by enlarging or contracting; but to us, what is already delivered, is ſufficient. Let us now contemplate problems univerſally, ſome of which are produced ſimply, but others manifoldly, and others according to infinite modes. But (as Amphinomus obſerves) thoſe which are ſimply conſtructed are *ordinate*: but thoſe which receive a manifold compoſition, and are conſtructed according to number, are *middle*; and thoſe which are varied in infinite ways, are *inordinate*. The manner, therefore, in which problems are conſtructed, ſimply or manifoldly, becomes manifeſt in the preceding triangles; for the equilateral is conſtituted ſimply; but of the other two, the one receives a two-fold, and the other a triple conſtruction. But problems of the following kind, may take place in infinite modes; I mean *to divide a given right line in three proportional parts*; for if it be divided in a duple ratio, and the deficient quadrangular form, reſulting from the leſs, be applied to the greater, it will be divided into three equal parts; but if the greater ſegment be more than double of the leſs, as for inſtance, triple, and a deficient quadrangular form, equal to that which reſults from the leſs,

leſs, be applied to the greater, the line will be divided into three unequal parts. Becauſe, therefore it may be divided into two parts, in infinite ways, the greater of which is either double or triple, (for multiplex proportion proceeds in infinitum), hence, it may be divided into three parts, according to infinite variations.

But it is requiſite to know, that problem alſo is manifoldly predicated; for whatever is propoſed may be called a problem, whether it is propoſed for the ſake of learning or operating. But in mathematical diſciplines, that is properly called a problem, which is propoſed for the purpoſe of contemplative energy. Since that which is performed in theſe, has contemplation for its end; and often, indeed, certain things, impoſſible to be executed, are called problems: but more properly that which is poſſible to be done, and neither exceeds, nor is deficient, is allotted an appellation of this kind; and the problem *exceeds*, which ſays, *to conſtruct an equilateral triangle, having its vertical angle two thirds of one right*; for this is ſuperfluous, and is added in vain: ſince it is a property inherent in every equilateral triangle. But of thoſe which exceed, whatever are redundant with incongruous and non-exiſtent ſymptoms, are called *impoſſibles:* but whatever are redundant with accidents, are called *greater problems.* But a *defective* problem (which is alſo called a *leſs problem)* is that which requires ſome addition, that it may be reduced from inordination into order and ſcientific bound, as if any one ſhould ſay, *to conſtitute an iſoſceles triangle:* for this is mutilated and indeterminate, and requires ſome one who may ſubjoin, what kind of an iſoſceles triangle, whether that which has its baſe greater than either of the equal ſides; or that which has it leſs. Likewiſe, whether that which has the vertical angle double of each at the baſe, as a ſemiquadrangle; or that which has each of the angles at the baſe double of the vertical angle; or that which poſſeſſes theſe angles according to ſome other proportion, as triple or quadruple: for it is poſſible that it may be varied in infinite modes. From hence, therefore, it is manifeſt, that ſuch things as are properly denominated problems, ought to avoid indetermination, and not to be of the number of things capable of infinite variation; though ſuch as theſe are alſo called problems, through an equivocation

of

of the word problem. The firſt problem, therefore, of theſe elements, excels the reſt in the manner we have explained; for it neither *exceeds*, nor is *deficient*; it is neither conſtructed in a variety, nor according to infinite modes; and ſuch ought to be the conditions of that which is to be the element of the reſt.

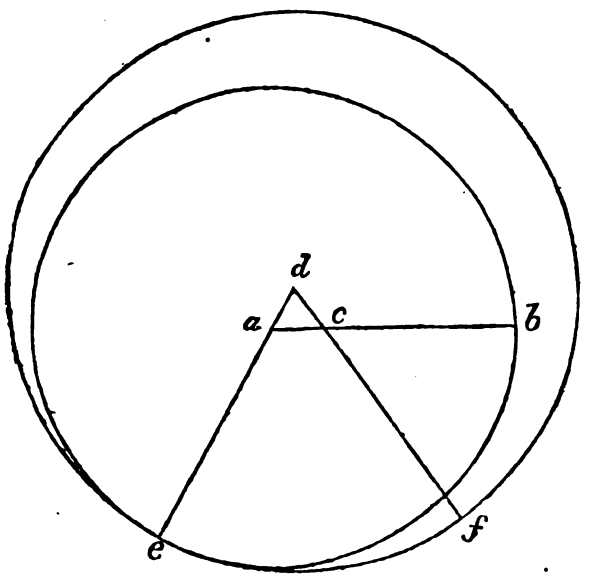
PROPOSITION II. PROBLEM II.

To a given point to place a right line equal to a given right line.

Of problems, as well as of theorems, ſome are without caſe, but others poſſeſs a multitude of caſes. Whatever, therefore, have the ſame power acceding to many deſcriptions, and when their poſitions are changed, preſerve the ſame mode of demonſtration, theſe are ſaid to have *caſe*; but ſuch as proceed according to one poſition only, and one conſtruction, are without *caſe*; for ſimply, *caſe*, appears about the conſtruction both of theorems and problems. The ſecond problem, therefore, has many caſes: but a point is given in it *in poſition*, ſince it can only be given in this manner; but a right line, both in form and poſition, (for it is not ſimply *line*, but of ſuch a kind.) For it is here enquired, *how to a given point to place a right line equal to a given right line.* But it is manifeſt that the point is entirely in the ſubject plane, in which the right line exiſts, and not in one more elevated. For in all problems and theorems reſpecting planes, we muſt conceive that one plane is ſubjected. But if any one ſhould doubt how a line is to be placed equal to a given right line, for what if the given line be infinite? Since the preſent datum pertains both to finite and infinite: for every datum ſignifies that which is propoſed and ſuppoſed by us for the ſake of inveſtigation. But this Euclid himſelf declares, ſometimes, ſaying, *upon a given terminated right line to conſtruct an equilateral triangle*; but at other times, *upon a given infinite right line to let fall a perpendicular.* In anſwer then to this doubt, we muſt ſay, that when he orders us to place the line equal to a given

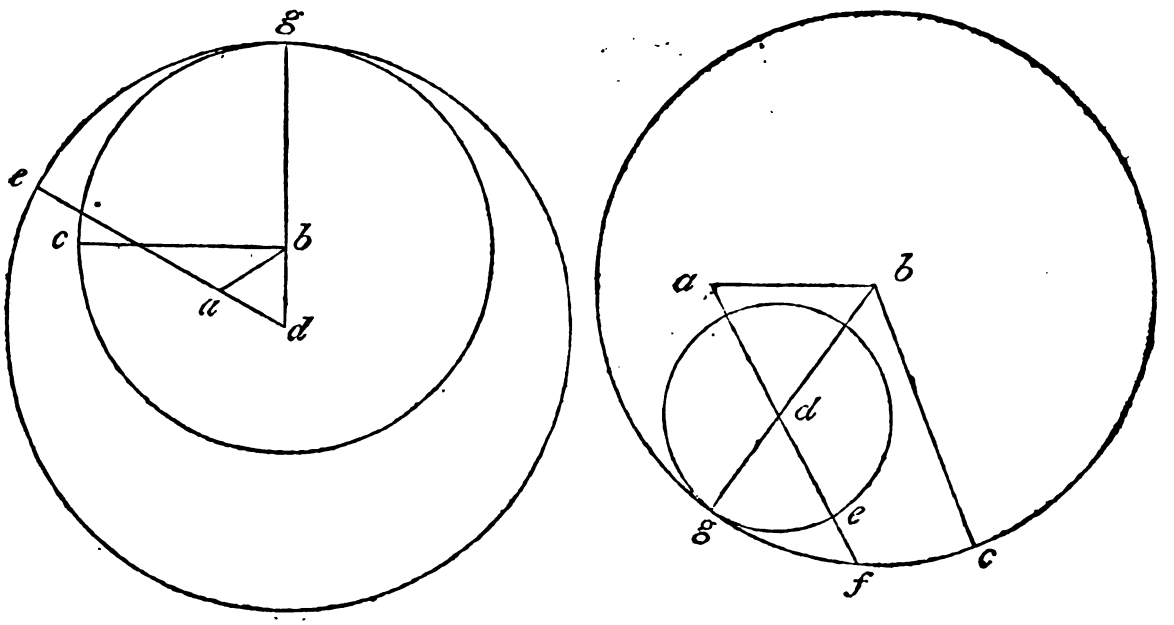
right line, at a given point, he ſufficiently evinces that the given line is finite; for every thing placed at a point, is terminated according to that point. Hence, the line equal to that which is given, muſt have a much prior termination. At the ſame time, therefore, in which he ſays *to a given point*, he terminates both the given right line, and its equal which is inveſtigated.

But that the caſes of the preſent problem are formed from the various poſition of a point, is manifeſt. For the given point is either placed external to, or in the given right line; and if in it, it will either be one of its extremities, or it will be ſituated within the extremes; and if external, it will either have a lateral poſition, ſo that a line drawn from it to the extremity of the given line will form an angle, or a direct poſition; ſo that if the line were produced, it would coincide with the external point. But the geometrician, indeed, conſiders the point as external, and receives it according to a lateral poſition; however, for the ſake of exerciſe, all the poſitions are to be aſſumed, the more difficult of which we ſhall exhibit. For let there be given a right line *a b*, and a given point *c*, which lies between its extremes, and let there be conſtituted according to the doctrine of



the

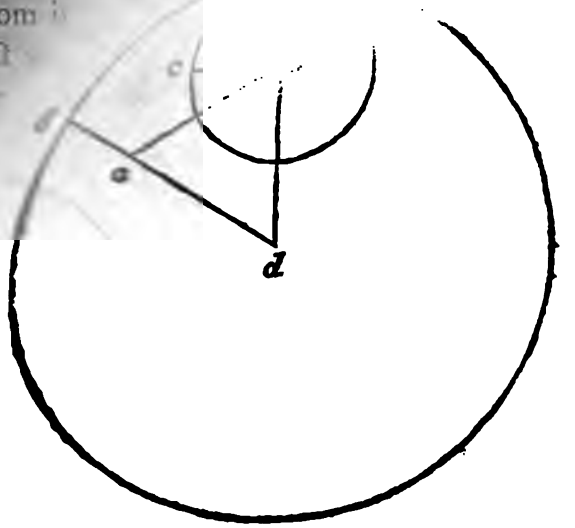
the elements, an equilateral triangle upon the right line *a c*, and let *d c*, *d a*, be produced; then, with the centre *a*, and the interval *a b*, let the circle *b e* be deſcribed. And again, with the centre *d*, but with the interval *d c*, let the circle *d f* be deſigned. Becauſe, therefore, *a* is the centre, *b a* is equal to *a e*; and hence, *d e* is equal to *d f*, the the parts of which, *d a*, *d c*, are equal: for the triangle *d a c* was eſtabliſhed as equilateral. The remainder, therefore, *a e*, is equal to *c f*; but *a e*, as it was ſhewn, is equal to *a b*, and hence, *c f* is equal to *a b*. To a given point, therefore, *c*, a right line *c f* is placed equal to *a b*. With reſpect to the poſition of the point then, ſo many caſes ariſe. But there are many more with reſpect to the conſtitution of the equilateral triangle, the extenſion of its ſides, and the deſcription of circles. For let there be aſſumed, as in this element, a point *a*, and a right line *b c*, but let *b a* be extended. The equilateral triangle,



therefore, will not be conſtituted on *b a*, with its vertex above (becauſe there is no place for it), but beneath; let it, therefore, be *a d b*; *a d*, therefore, is either equal to *b c*, or greater or leſs. If then it be equal that which was required is performed. But if leſs with the

right line, at a given point, be ſufficiently [illegible]ced, and let *a d*, line is finite; for every thing placed at a p[illegible] centre *d*, but the ing to that point. Hence, the line equa[illegible]refore, *d g* is equal have a much prior termination. At th[illegible]kewiſe becauſe *a d* he ſays *to a given point*, he termina[illegible] remainder *a e* is its equal which is inveſtigated. [illegible]al to *b c*, for they

But that the caſes of the pr[illegible] to *b c*, which was rious poſition of a point, is m[illegible]an *b c* (for this is placed external to, or in t[illegible]erval *b c*, let a circle either be one of its extre[illegible] tremes; and if extern[illegible] a line drawn from [illegible] angle, or a direct[illegible] coincide with th[illegible] ſiders the poi[illegible] tion; how[illegible] aſſumed[illegible]



be[illegible]
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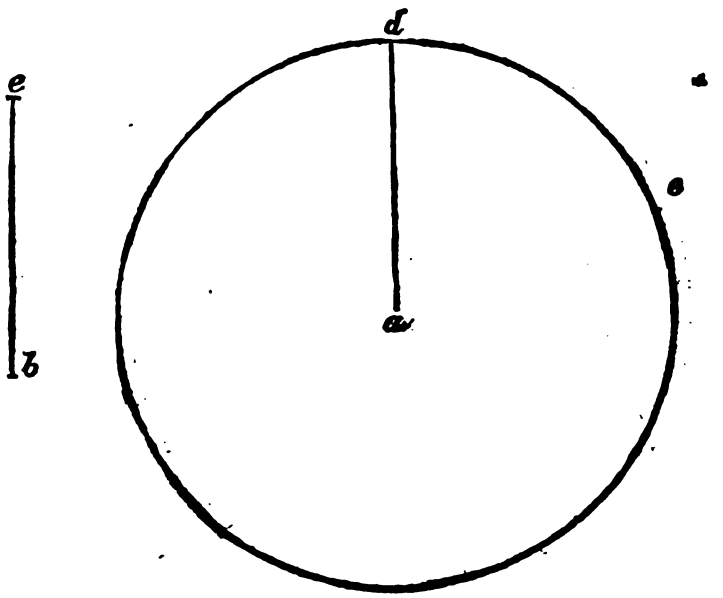
described. The line *d b*, therefore, ſhall cut the circle *e c*. Again, with the centre *d*, and interval *d e*, let the circle *e g* be described. Becauſe therefore, *d* is the centre of the circle *g e*, *g d* is equal to *d c*. But *d a* was alſo equal to *d b*; the remainder, therefore, *a g* is equal to the remainder *b e*. But *b e* is equal to *b c*, for both proceed from the centre. Hence, *a g* is equal to *b c*; and it is placed at the point *a*, as was required to be done. And though there are many other caſes, the deſcription of the above is ſufficient for our preſent purpoſe. For from theſe it is poſſible for the more curious to exerciſe themſelves in the reſt. But formerly ſome deſtroying the conſtruc-

conſtruction and variety of this problem, reaſoned thus. Let *a* be a given point, but *b e* a given right line, and with the centre *a*, but



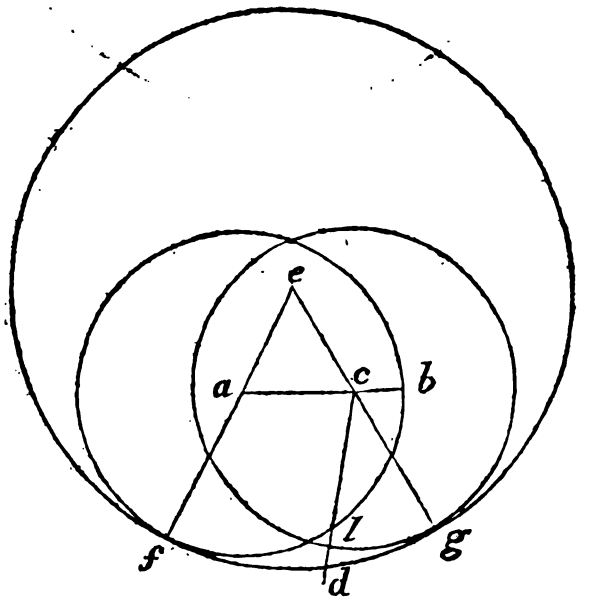
with an interval equal to *b e*, let a circle *d e* be deſcribed. Then let a certain right line *a d* be extended from the point *a* to the circumference; and this ſhall be equal to *b e*: for the magnitude of the line from the centre, was equal to that of *b e*: and ſo that is done which was required. But he who thus reaſons, *begs*, in the very beginning. For when he ſays with the centre *a*, but interval *b e* deſcribe a circle *e d*, he receives, in a certain manner, a line equal to *b e*, placed at the extremity *a*; and preſerving the Petition, he makes one extremity of the interval a centre, but with the other deſcribes a circle: however, in this caſe, the centre is in one place, but the interval in another. We by no means, therefore, approve this method of demonſtration.

PROPOSITION III. Problem III.

Two unequal right lines being given, from the greater to cut off a part equal to the leſs.

This third problem, likewiſe, has a variety of caſes. For the given unequal right lines are either mutually diſtant from each other, as with the inſtitutor of the elements, or they are united according to one

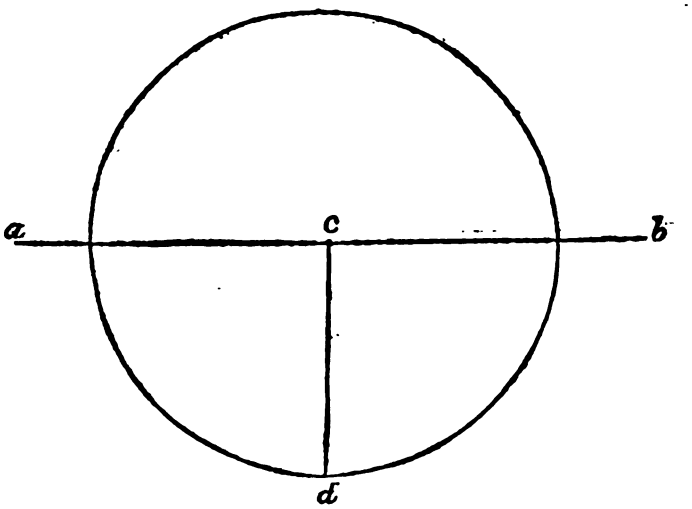
one extreme; or the one cuts the other according to one of its extremities, and this in a two fold manner. For either the greater cuts the leſs, or the leſs the greater. But if they are united according to one extreme, the demonſtration is manifeſt. For employing the common extremity as a centre, and the leſſer of the lines for an interval, you will deſcribe a circle, and cut off from the greater, a part equal to the leſs; ſince as much as the circle intercepts within itſelf, will be equal to the leſs. But if the one cuts the other according to its extreme, either the greater will cut the greater, or the contrary. And if they mutually cut each other, they will either be mutually cut into equal parts, or into unequal; or the one will be cut into equal, and the other into unequal parts, and this in a two-fold reſpect. For all theſe preſent us with an admirable variety of exerciſe, ſome of which, out of a many, we ſhall exhibit. Let there be given the unequal right



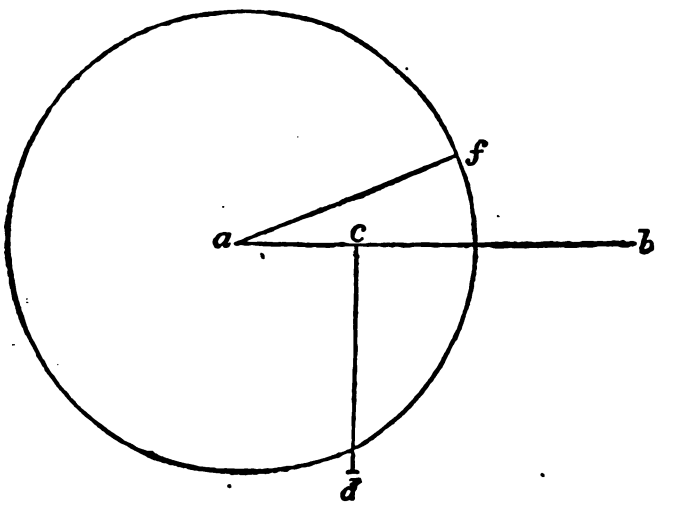
lines *a b*, *c d*, the greater of which is *c d*, and let it cut *a b* in one of its extremities *c*; then with the centre *a*, but interval *a b*, let a circle *b f* be deſcribed, and let an equilateral triangle *a e c* be conſtructed upon *a c*, and produce *e a*, *e c*. Again, with the centre *e*, but interval *e f*, let the circle *g f* be deſcribed; and with the centre *c*, and interval *c g*, the circle *g l*. Becauſe therefore, *e f* is equal to *e g* (for the centre is *e*) of which *e a* is equal to *e c*, the remainder *a f*, ſhall be equal

equal to the remainder *c g*. But *a f* is likewiſe equal to *a b*; for the centre is *a*. Hence, *c g* will be equal to *a b*, and this is equal to *c l*, for the centre is the point *c*: *a b*, therefore, is equal to *c l*, which was required to be done.

But let *c d* be leſs than *a b*, and let it cut *a b* according to its extremity *c*; either, therefore, it will cut it in the middle, or not in the

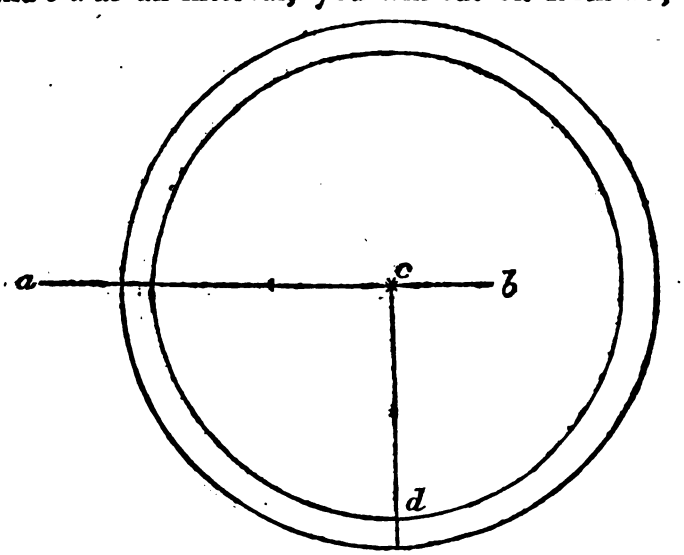


middle. Let it in the firſt place cut it in the middle; *c d*, therefore, is either the half of *a b*, and *a c* is equal to *c d*, or it is leſs than half. And in this caſe with the centre *c*, and interval *c d*, deſcribe a circle, and you will cut off from *a b* a part equal to *c d*: Or it is greater than half; and then at the point *a*, placing *a f*, equal to *c d*, and deſcribing

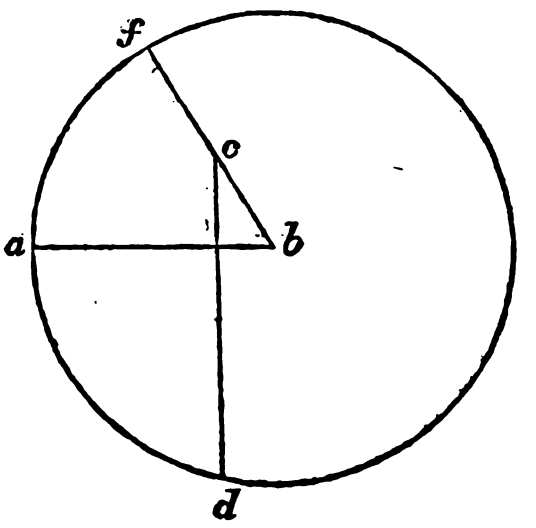


a cir-

a circle with the centre *a*, and interval *a f*, you will cut off from *a b* a part equal to *a f*, that is to *c d*. But if *c d* does not cut *a b* in the middle, *c d* ſhall either be its half, or greater than the half, or leſs. If therefore *c d* is the half, or leſs than the half of *a b*, employing *c* as a centre, and *c d* as an interval, you will cut off from *a b*, a part equal



to *c d*, as was required to be done. But if *c d* is greater than the half, again at the point *a** placing *a f* equal to *c d*, you will accompliſh the ſame. For with the centre *a*, but interval *a f*, you will deſcribe a circle, cutting off from *a b* a line equal to *a f*, that is, to *c d*.



But

* See the third figure of this problem.

But if they mutually interſect, as *c d*, *a b*, then with the centre *b*, but interval *b a*, deſcribe the circle *a f*, and let *b c* be extended to the point *f*. Becauſe therefore, *b f*, *c d*, are the two unequal right lines, and *c d* cuts *b f*, according to its extremity, it is poſſible from *c d* to make a line equal to *b f*; for this has been ſhewn in the firſt caſe of this problem. It is therefore poſſible, that a line equal to *a b* may be cut off from *c d*; for *a b* and *b f* are mutually equal. Having, therefore, received theſe caſes from diviſion, we have endeavoured to exhibit their variety. But the demonſtration of the elementary inſtitutor is admirable, ſince it accords with all the preceding conſtructions. And it is poſſible, in every poſition, at the extremity of the greater, to place a line equal to the leſs, and uſing the ſame extreme as a centre, and placing the interval to deſcribe a circle, which ſhall cut off from the greater, a line equal to the leſs, whether they mutually interſect, or one cuts the other, or they are conſtituted in a ſtill different poſition.

PROPOSITION IV. THEOREM I.

If two triangles have two ſides equal each to each; and have likewiſe the angles equal; which are comprehended by the equal ſides; then they ſhall have their baſes equal; and the two triangles ſhall be equal; and the remaining angles oppoſite to the equal ſides ſhall be equal.

This is the firſt theorem in the inſtitution of the elements, for all thoſe which preceded were problems. The firſt, indeed, treating concerning the origin of triangles: but the ſecond and third propoſing to procure one right line equal to another. And of theſe the one produced an equal from an unequal line, but the other diſcovered an equal line by an ablation from one unequal. Since, therefore, equality, which is the firſt ſymptom in quantity, is to be conſtructed by us in a triangle and right line, it is delivered in the following theorem. For how can he who has not previouſly conſtructed triangles, and procured their origin, be learned in their eſſential accidents, and in the equality of angles and ſides which they contain? How can he receive ſides equal to ſides, and right lines to other right lines, who has

neither problematically inveſtigated theſe, nor fabricated the invention of equal right lines? For if he ſhould ſay it may happen before they are fabricated, that if two triangles have *this* for a *ſymptom*, they ſhall likewiſe have *this particular ſymptom*; would it not, in this caſe, be eaſy to object to him, that we by no means know whether a triangle can be conſtructed? And ſhould it be afterwards inferred, that if there are two triangles, they may have two ſides equal to two ſides, may we not alſo doubt this, whether it is poſſible that right lines may be mutually equal? And this particularly in geometrical forms, in which inequality not entirely exiſting, equality is likewiſe inherent. For we muſt learn that the cornicular is always unequal to an acute angle, and the ſame is true of the ſemicircular angle, and the tranſition from the greater to the leſs does not entirely take place through that which is equal. The inſtitutor of the elements, therefore, firſt of all removing theſe objections, delivers alſo the conſtruction of triangles (for it is common to three forms) and the origin of equal right lines, in a two-fold order. For he produces the one, not yet exiſting: but he acquires the other by an ablation from an unequal line. But after theſe he very properly ſubjoins the theorem, by which it is ſhewn how triangles having two ſides equal to two, each to each, and the angles comprehended by the equal ſides equal, have alſo the baſe equal to the baſe, the area equal to the area, and the remaining angles to the remaining angles. For there are three particulars exhibited in theſe triangles: but two data. Hence, the equality of the two ſides is given, or two equal ſides (and it is manifeſtly given in proportion) and the equality of the angle contained by the equal ſides: but three particulars are inveſtigated, the equality of *baſe* to *baſe*, of *triangle* to *triangle*, and of the *remaining angles*. But becauſe it is poſſible that triangles may have two ſides equal to two, and yet the theorem not be true, becauſe the one is not equal to the other, but both together, on this account he adds in the data, that the ſides are equal not ſimply, but one to the other. For if one of the triangles ſhould have one of its ſides of three units, but the other of four; and again, if the ſides of the other triangle are reſpectively two, and five units, the angle comprehended by theſe being right, the two ſides of the one triangle, will, indeed, taken together, be equal to the two

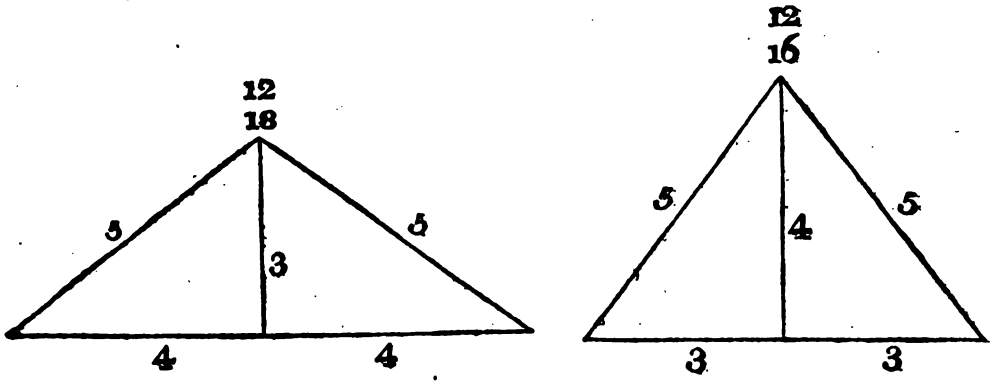
ſides

ſides of the other, or to ſeven units, yet the two triangles will not be equal. For the area of the one is ſix units*, but of the other five. And the reaſon of this is, becauſe the ſides are not equal each to each. Hence, many, not obſerving this in the diviſion of land, when they have received a greater, have thought juſt the ſame as if they had received an equal field; and this becauſe both the ſides containing one field, have been together equal to both the ſides containing the other field. It is requiſite, therefore, to receive the one equal to the other, and to mark wherever the inſtitutor of the elements ſubjoins this, becauſe he does not add it without occaſion. For diſcourſing on the equality of equal angles, he adds the particle *comprehended by equal ſides*, leſt by ſpeaking indeterminately we ſhould aſſume ſome one of the angles at the baſes. Beſides, when in triangles no ſide is previouſly named, we muſt conceive the baſe to be the ſide oppoſite to our ſight; but when two are previouſly received, the remaining ſide is neceſſarily the baſe. Hence, here too, the inſtitutor of the elements having previouſly aſſumed two ſides equal to two, calls the remainder the baſes of the triangles. But a triangle is then ſaid to be equal to a triangle, when their areas are equal. For it is poſſible, that though the ambits are equal, yet the areas may be unequal, on account of the inequality of angles. But I call the area, the ſpace intercepted by the ſides of the triangle: as alſo I denominate the ambit, the line compoſed from the three triangular ſides. Each, thereſore, is different, and it is requiſite, indeed, that beſides the equality of the ambits, according to each ſide, the angles ſhould alſo be equal, if alſo area ought to be equal to area. But it happens in certain triangles, that though the areas are equal, yet the ambits are unequal; and that the ambits being equal, the areas are unequal. For if there be two iſoſceles triangles, each of whoſe equal ſides contains five units, but the baſe of the one is eight, and of the other ſix units; he who is ignorant of geometry, will ſay that the greater triangle is that whoſe baſe contains eight units. For the whole ambit will be eighteen. But

* This is eaſily proved from the menſuration of a triangular ſpace, which it is well known is obtained by multiplying the baſe into half the altitude; and this in the firſt triangle will be equal to 3 multiplied by 2; and in the ſecond, to 2 multiplied by $2\frac{1}{2}=5$.

the geometrician will ſay, that the area of each triangle contains twelve units, and this he will demonſtrate, by drawing in each triangle a perpendicular from the vertex, and multiplying this with either part of the ſegments of the baſe †. But it happens (as I have ſaid) that though the ambits are equal, the ſpaces are unequal. Hence, certain perſons formerly fraudulently deceived their partners in the diviſion of fields, on account of the equality according to ambit, receiving a larger field. But one baſe is ſaid to be equal to another, and one right line to another, when their extremes conjoined make the whole coincide with the whole. For every right line, indeed, agrees with every right line; but equal right lines mutually coincide according to their extremes. Again, one right-lined angle is ſaid to be equal to another, when one of the comprehending ſides of one angle being placed upon one of the other, the remaining ſide alſo coincides with the remainder: but when one of the remaining ſides falls external to the other, the greater angle is that whoſe ſide falls externally; and the leſs whoſe ſide falls within. For there, indeed, the one contains, but in this caſe it is contained. But we muſt aſſume the equality of angles according to the convenience of ſides in right lines, and in all of the ſame ſpecies, as in lunulars and ſyſtroides *, and

† The quantity of this perpendicular in each triangle may be eaſily obtained from the 47th propoſition of this book; for in the firſt triangle it will be three units; and in the ſecond four. Hence, the area of each will be 12 units; but the ambit of the one will be 18, and of the other 16 units, as is evident in the following figures.

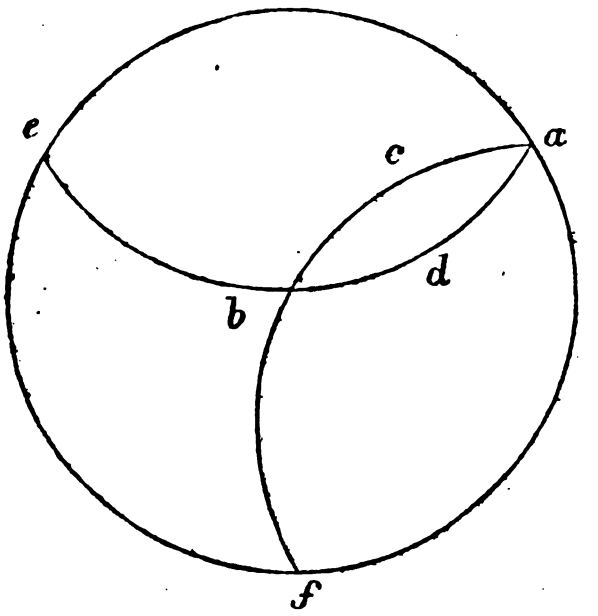


* That is angles formed from the circumferences of circles cutting or touching each other, when they are on both ſides concave.

figures

figures on both ſides convex; becauſe, it is poſſible that they may be equal, and yet the ſides not mutually coincide. For a right angle is equal to a certain lunular angle, and yet it is not poſſible that right lines can coincide with circumferences. Beſides, this alſo muſt be previouſly underſtood, that the angles are ſaid to ſubtend the oppoſite ſides. For every triangular angle is contained by two ſides of the triangle, but is ſubtended by the remaining ſide. Hence, the geometrician, when he ſays that the angles are equal, adds, *which are oppoſite to the equal ſides*, leſt we ſhould conceive it of no conſequence whatever angle is received, and ſhould think that he denominated any other two angles of the triangles equal, but we muſt call thoſe equal which ſubtend equal ſides. For equal ſides mutually ſubtend equal angles. And ſuch are the conſiderations neceſſary to the declaration of the preſent theorem.

But againſt the objection of our adverſary *, this muſt be previouſly aſſumed, that two right lines cannot comprehend ſpace. For this the geometrician receives as evident. For if (ſays he) the extremes of the baſes mutually coincide, the baſes alſo ſhall coincide: but if not two right lines, will comprehend ſpace. From whence, therefore, is the impoſſibility of this derived? Let there then be two right lines comprehending ſpace *a c b*, *a d b*, and let them be infinitely produced.



* Moſt probably Zeno, the Epicurean.

Then

Then with the centre *b*, and interval *a b*, let a circle *a e f* be deſcribed. Becauſe, therefore, the line *a c b f* is a diameter, *a c f* is the half of the circumference. Again, becauſe the line *a d b e* is a diameter, *a e*, likewiſe, is one half of the circumference. Hence, *a e*, and *a c f* are equal to the circumference, which is impoſſible. Two right lines therefore, cannot comprehend ſpace; which the inſtitutor of the elements knowing ſaid, in the firſt Petition, *from every point, to every point, to draw a right line*, becauſe one right line is always capable of uniting two points, but this is impoſſible for two right lines to effect. Many circumferences, indeed, may conjoin two points, both in the ſame, and in contrary parts: for by this means the extremities of a diameter conjoin two circumferences, but only one right line. But it is poſſible that both within and without ſemicircles, infinite circumferences conjoining given points may be deſcribed. And the reaſon of this is, becauſe a right line is the leaſt of lines, having the ſame extremes. But there is every where one *minimum*, and this always becomes the meaſure of the infinity of others. As therefore a right line, ſince it is one, becomes the meaſure of the infinity of right-lined angles (for by this we diſcover their quantity) ſo likewiſe a right line procures us the greateſt utility in the menſuration of ſuch as are non-rectilineal. And thus much may ſuffice concerning theſe.

But that the whole demonſtration of the preſent theorem depends on common conceptions, riſing as it were ſpontaneouſly, and emerging from the evidence of hypotheſes, is manifeſt to every one. For ſince two ſides are equal to two ſides, each to each, they will mutually coincide. But ſince the angles contained by the equal ſides are equal, they alſo ſhall mutually coincide. And when angle is placed on angle, and ſides on ſides, ſo as to touch, in every part, the extremities of the ſides beneath ſhall alſo coincide. But if theſe, then *baſe*, ſhall agree with *baſe*. And if three with three, the whole triangle ſhall accord with the whole triangle, and all ſhall be equal to all. Hence, therefore, equality conſidered in things of the ſame ſpecies, appears to be the cauſe of the whole demonſtration. For here are two axioms endued with a power of containing the whole method of the propoſed theorem. One, indeed, affirming, that *things which*

mutually coincide, are equal; and this is ſimply true, requiring no limitation, and is employed by the inſtitutor of the elements both in the baſe, and in the ſpace, and in the other angles. For theſe, ſays he, are equal, becauſe they mutually coincide. But the other affirming that *things which are equal mutually coincide.* This, however, is not true in all, but in thoſe of a ſimilar ſpecies. But I call things ſimilar in ſpecies, ſuch as a right line when compared with a right line, one circumference with another of the ſame circle, and the angles comprehended by ſimilar lines endued with a ſimilar poſition. But of theſe, I ſay, that ſuch as are equal, mutually coincide: ſo that in ſhort, the whole demonſtration is of this kind. Theſe equals, therefore, are given, viz. two ſides equal to two ſides, and the angles which they comprehend, and theſe accord among themſelves. But if theſe mutually coincide, the baſe alſo ſhall agree with the baſe, and all coincide with all. And if theſe accord, they are alſo equal. If then theſe are equal, it may at the ſame time be ſhewn that all are equal to all. And this appears to be the firſt mode of knowing triangles on all ſides equal. And thus much concerning the whole demonſtration.

But Carpus, the mechaniſt, who, in an aſtrological treatiſe, diſcourſes of problems and theorems, ſays, "that they muſt not be paſſed over in ſilence, ſince they opportunely preſent themſelves for inveſtigation;" and laſtly, entering on their diſtinction, he obſerves, "that the problematical genus precedes theorems in order. For in problems (ſays he) the invention of ſubjects is inveſtigated prior to ſymptoms. Likewiſe a problematical propoſition is ſimple, and requires no artificial intelligence. For this commands us to accompliſh ſomething evident, as *to conſtruct an equilateral triangle*, or *from two given unequal right lines, to cut off from the greater a part equal to the leſs*. For what is there in theſe difficult and obſcure. But he affirms that the propoſition of a theorem is difficult, and requires the moſt accurate power, and a judgment productive of ſcience, that it may appear neither to exceed, nor to be deficient from truth; ſuch, indeed, as the preſent, which is the firſt of theorems. Add too, that in problems, there is one common way invented by reſolution, by proceeding

ing

ing according to which, we can happily accompliſh our purpoſe. For after this manner the more eaſy kind of problems are inveſtigated. But the treatiſe of theorems is ſo very difficult, that even to our time (ſays he) no one has been able to deliver any common method of their invention. Hence, on account of facility alſo, the problematical genus is more ſimple. But theſe being diſtinguiſhed, it is on this account (ſays he) that in the elementary inſtitution problems precede theorems, and from theſe the inſtitution of the elements begins; and the firſt theorem is in order the fourth, not becauſe the fourth is exhibited from the preceding, but becauſe it is neceſſary they ſhould precede as being problems, and this a theorem, though it ſhould require none of the antecedent propoſitions for its demonſtration. For the preſent theorem entirely employs common conceptions; and in a certain reſpect receives the ſame triangle in a different poſition. Since coincidence, and its conſequent equality poſſeſs a ſenſible and manifeſt apprehenſion. But ſuch being the demonſtration of the firſt theorem, problems with great propriety precede, becauſe they are univerſally allotted the primary place" And perhaps, indeed, problems antecede theorems in order; and particularly among thoſe who aſcend to contemplation from the arts, which are converſant with ſenſible particulars: but theorems excel problems in dignity of nature. And it appears, that all geometry, ſo far as it conjoins itſelf with a variety of arts, energizes problematically: but ſo far as it coheres to the firſt ſcience, it proceeds theorematically from problems to theorems, from things ſecondary to ſuch as are firſt, and from things which more regard the arts, to ſuch as are endued with a greater power of producing ſcience. It is, therefore, vain to accuſe Geminus, for affirming that theorems are prior to problems. For Carpus aſſigns a precedency to problems, according to order: but Geminus to theorems, according to a more perfect dignity. But of this fourth theorem, we have already obſerved, that in a certain reſpect it is indigent of the preceding problems, in which we learn the origin of triangles, and the invention of equality. But we now add, that ſince it is the moſt ſimple and principle of theorems (for it is naturally, as I may ſay, exhibited from primary conceptions alone), but demonſtrates a certain ſymptom appear-

appearing about triangles, having two ſides equal to two, each to each, and the two angles equal contained by the equal ſides, it is with great propriety placed the firſt after problems, in which things ſubject to this ſymptom, and the data themſelves are conſtructed.

PROPOSITION V. THEOREM II.

The angles at the baſe of an iſoſceles triangle are mutually equal; and the equal right lines being produced, the angles under the baſe ſhall be mutually equal.

Of theorems ſome are *ſimple*, but others *compoſite*. I call thoſe *ſimple*, which, both according to hypotheſes and concluſions, are indiviſible, poſſeſſing one *datum*, and one object of inveſtigation. Thus for example, if the inſtitutor of the elements had ſaid, *every iſoſceles triangle has the angles at the baſe equal*, it would have been a ſimple theorem. But theorems are compoſite, which are compoſed from many particulars, either having compoſite hypotheſes, or concluſions from a ſimple hypotheſis, or both. And of theſe, ſome are *complex*, but others *incomplex*. The *incomplex* are ſuch compoſites as cannot be divided into ſimple theorems, as the fourth propoſition. For in this, both the *datum* is a compoſite, and its conſequent, yet it is impoſſible that the *datum* can be divided into things ſimple, and become theorems. For if a triangle has its ſides alone equal, or the angle at the vertex, the ſame conſequences will not enſue. But the *complex* are ſuch as may be divided into things ſimple, as the theorem which ſays, *triangles and parallelograms of the ſame altitude, have the ſame proportion as their baſes*. For it is poſſible to ſay by diviſion, that *triangles of the ſame altitude, have the ſame proportion as their baſes*, and in parallelograms after a ſimilar manner. But of all compoſites, ſome are compoſed according to the concluſion, being excited from the ſame hypotheſis: but others have their concluſion according to hypotheſes, and infer the ſame concluſion in all: and others, laſtly, are compoſed both according to the concluſion, and according to hypo-

theſes. *Compoſition*, therefore, in the preſent caſe, is according to the *concluſion*, for there are three particulars concluded in this theorem, *that the baſes are equal, that the triangles are equal, and that the remaining angles, under the baſe, are equal to the remaining angles.* But compoſition, according to *hypotheſis*, is found in the common theorem *of triangles and parallelograms of the ſame altitude.* And *according to both*, in the theorem that *the diameters both of circles and ellipſes, biſect as well the ſpaces as the lines containing the ſpaces.* But of *complex* theorems, ſome are univerſal: but others conclude that which is univerſal from particulars. For if we ſhould ſay that a diameter divides a circle, ellipſis, and parallelograms, we receive, indeed, every part of the complex, not univerſally, but we make that univerſal which is compoſed from all. But if we ſhould ſay, that *in a circle, all lines paſſing through the centre, mutually biſect each other, and make equal angles of all the ſegments*, we ſhould affirm a univerſal. For in an ellipſis all the angles of the ſegments are not equal, but thoſe only which are formed by the diameter. But theſe compoſitions are entirely fabricated, for the ſake of geometrical brevity and reſolutions. For many things incompoſite are not reſolved, but compoſites alone afford convenience to a reſolution tending to principles.

In conſequence of theſe previous conſiderations then, we muſt call the fifth theorem a *compoſite*, and a compoſite, both with reſpect to the *datum*, and the *object of inveſtigation*; and this the inſtitutor of the elements exhibiting, divides this theorem, being one, and gives a ſeparate poſition to the *data*, and the *things to be inveſtigated*, for he ſays that *the angles at the baſe of an iſoſceles triangle are equal*; and again, that *the equal ſides being produced, the angles under the baſe are equal.* For we muſt not think that there are two theorems, but one; and that this is a compoſite, both according to the *data*, and *thing ſought*: and that each of theſe compoſites is perfect and true. Hence, converſion alſo is true in each. For if the angles at the baſe are equal, the triangle is iſoſceles: but if thoſe under the baſe are equal, the equal right lines are produced, and the triangle is

iſoſceles

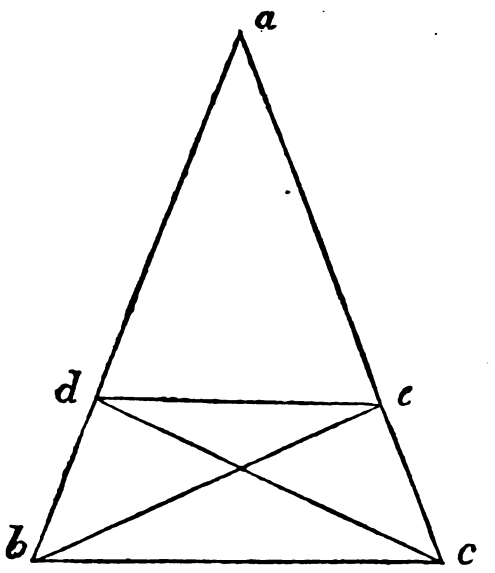
iſoſceles. But the inſtitutor of the elements *converts* the equality of the angles at the baſe; but not the equality of thoſe under the baſe, though this is likewiſe true; the reaſon of which we ſhall ſhortly explain. But we ſhall now, in the firſt place, enquire on what account he demonſtrates that the angles under the baſe are equal. For he never employs this in the conſtruction or demonſtration of other problems or theorems. It may be doubted, therefore, why, ſince it is uſeleſs, it was requiſite to inſert it in the preſent theorem? To this we muſt reply, that though it is never employed in the elements, yet it is moſt uſeful for the deſtruction of objections, and the ſolution of oppoſitions to theorems *. But it is artificial, and belongs to ſcience to

* Mr. Simpſon, in his note on the 7th propoſition of this book, poſitively aſſerts, that it contains two caſes, though there is but one in the Greek text; and ridicules Proclus for aſſerting that the ſecond part of the preſent propoſition was added, in order to ſolve objections which might be urged againſt the ſeventh. But that Euclid never added any more than one caſe, is, I think, evident, not only from no ſuch caſe being found in the Greek copies ſo early as the age of Proclus; but from his not converting it in the 6th propoſition. Beſides, it is employed with advantage in the ſolution of objections againſt the 9th propoſition, as the reader will perceive in its commentary; and the objection there ſtarted merits the appellation of a caſe, as much as the 7th. But Mr Simpſon ſeems to have been ignorant of Euclid's deſign in theſe elements;—the tradition of that only which is accommodated to an elementary inſtitution. Hence, Euclid every where avoids a multiplicity of caſes; and anticipates objections where he foreſees they may be urged. Mr. Simpſon adds in ſupport of his dogmatical aſſertion, "that the tranſlation from the Arabic has this caſe explicitly demonſtrated" As if an Arabic tranſlation was of greater authority than the Greek text which Proclus conſulted! And laſtly, he concludes, with obſerving, that "whoever is curious, may read what Proclus ſays of this in his commentary on the 5th and 7th propoſitions; for it is not worth while to relate his trifles at full length." If an accurate knowlege of the nature, beauty, and tendency of a ſcience, or a collection of ſcientific propoſitions, is trifling, Proclus, indeed, deſerves this accuſation; as I doubt not the liberal reader, is, by this time, fully convinced. But Mr. Simpſon was no philoſopher; and therefore the greateſt part of theſe Commentaries muſt be conſidered by him as trifles, from the want of a philoſophic genius to comprehend their meaning, and a taſte ſuperior to that of a *mere mathematician*, to diſcover their beauty and elegance. It is common, indeed, to hear geometricians of the preſent day exclaiming, *What need of a comment on Euclid! Is he not perſpicuous to every one?* I will readily admit that ſuch gentlemen know enough of geometry for all mechanical and ſenſible purpoſes: but I fear they are totally ignorant of its end; and have never dreamt that when properly ſtudied it is the handmaid of true philoſophy, the purifier of the rational ſoul, and the bridge by which we may paſs from the obſcurity and deluſion of a material nature, to the ſplendor and reality of intellectual viſion. I add farther, that I am greatly inclined to doubt, whether ſuch geometricians ever conſidered what kind of ſubſiſtence geometrical forms poſſeſs? Whether they have any certainty, or are only imaginary? Where theſe forms, if real, reſide? And a multitude of other queſtions which are diſcuſſed in theſe Com-

to prepare ſolutions of things reſiſting its propoſitions, and to provide ſubſidies of anſwers; that not only true demonſtrations may be fabricated from things previouſly demonſtrated, but that from hence confutations of error may be produced. And from this geometrical order, you will likewiſe receive a rhetorical emolument. For he who can effect this in the diſcourſes of rhetoric, who can foreſee the oppoſitions to his following heads, and previous to their delivery, can firſt of all prepare ſolutions of them to others, he, indeed, will fabricate in a wonderful manner, a moſt excellent mode of diſputation. The inſtitutor of the elements, therefore, teaching us this in reality, previous to the theorems by which we ſolve oppoſing objections, employing ſuch as are now exhibited, at the ſame time demonſtrates, that the angles under the baſe of an iſoſceles triangle, are equal, and thus prepares a confutation of the falſehood ſuch objections contain. But that from the preſent theorem we may ſolve the objections urged in the ſeventh and ninth propoſitions, will be perſpicuous as we proceed. Hence, it appears, why Euclid does not convert the latter part of this theorem in the ſixth, becauſe it does not produce a principal utility, but confers to our advantage, accidentally, with reſpect to the whole of ſcience.

But if any one ſhould deſire us without producing the equal right lines, to prove the angles at the baſe of an iſoſceles triangle equal, (for it is not requiſite to demonſtrate the equality of theſe, by thoſe under the baſe) by tranſpoſing, in a manner, the conſtruction, and fabricating thoſe conſtructions within, which are made without the iſoſceles triangle, we may exhibit the thing propoſed. Thus let

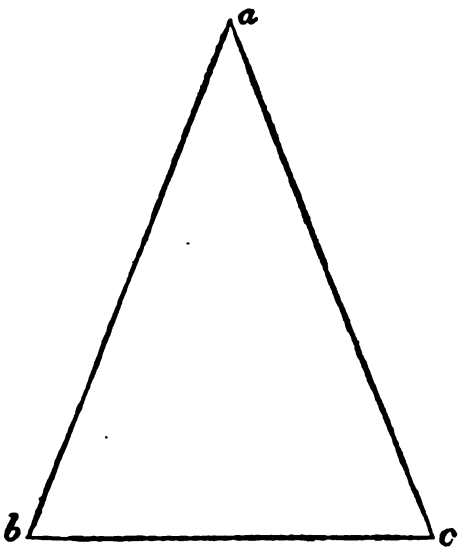
mentaries. And laſtly, what is moſt material of all, if geometry be a ſcience, what ſcience itſelf is? This laſt queſtion, indeed, they would doubtleſs conſider ſo *trifling* and eaſy of ſolution, that they would readily and confidently anſwer with young Theætetus in Plato, "that ſciences are ſuch things as may be learned from Mathematicians, geometry, and the like; ſhoe-making, and other mechanical arts; and that all, and each of them are no other than ſciences.!" To which admirable definition we may juſtly reply in the words of Socrates, "Generouſly and magnificently O my friends, when interrogated concerning *one thing*, have you given inſtead of ſomething ſimple, things *many* and *various*."



a b c be an iſoſceles triangle, and in the ſide *a b*, take any point *d*, and from *a c*, take *a e*, equal to *a d*, and draw the lines *b e*, *d c*, *d e*. Becauſe, therefore, *a b* is equal to *a c*, and *a d* to *a e*, and the angle *a* is common, *b e* alſo ſhall be equal to *c d*, and the remaining angles to the remaining angles. Hence, the angle *a b e*, is equal to the angle *a c d*. Again, becauſe *d b* is equal to *e c*, and *b e* to *d c*, and the angle *d b e* to *e c d*; hence, the baſe, ſince it is common to both, is equal to itſelf, and all are equal to all. The angle, *e d b*, therefore, is equal to the angle *d e c*: and the angle *d e b*, is equal to the angle *e d c*. Hence, ſince the angle *e d b*, is equal to the angle *d e c*, from which the equal angles *d e b*, *e d c*, are taken, the remaining angles *b d c*, *c e b* are equal. But the ſides alſo *b d*, *d c*, are equal to the ſides *c e*, *e b*, each to each, and the baſe *b c* is common. All, therefore, are equal to all. Hence, the remaining angles alſo, ſubtending equal ſides, are equal. The angle, therefore, *d b c*, is equal to the angle *e c b*. For the angle *d b c*, ſubtends the line *d c*: but the angle *e c b*, the line *e b*. The angles, therefore, at the baſe of an iſoſceles triangle, are equal, the equal right lines not being produced.

But Pappus demonſtrates this yet ſhorter, without any addition in the following manner. Let *a b c* be an iſoſceles triangle, having *a b*,

equal to *a c*. We muſt conceive, therefore, this one triangle as if it



was two, and reaſon thus. Becauſe *a b* is equal to *a c*, and *a c* to *a b*, the two ſides *a b*, *a c*, are equal to the two *a c*, *a b*, and the angle *b a c*, is equal to the angle *c a b*, (for it is the ſame.) All, therefore, are equal to all. The baſe *b c*, to the baſe *c b*. But the triangle *a b c*, to the triangle *a c b*; and the angle *a b c*, to the angle *a c b*, and the angle *a c b*, to the angle *a b c*. For they ſubtend equal ſides, i. e. *a b*, *a c*. The angles, therefore, at the baſe of an iſoſceles triangle, are equal. And it ſeems that Pappus invented this mode of demonſtration, when he conſidered that the inſtitutor of the elements alſo, in the fourth theorem, when he had united two triangles, and had made them mutually coincide, thus forming one of two, by this means obſerved their equality throughout. In like manner it is poſſible, that we alſo, by an aſſumption contemplating two triangles in one, may demonſtrate the equality of the angles at the baſe. Thanks, therefore are to be given to the ancient Thales for the invention of this theorem, as well as a multitude of others. For he, firſt, is ſaid to have perceived and affirmed, that the angles at the baſe of every iſoſceles triangle are equal: and after the manner of the ancients, to have called them ſimilar. But ſtill more deſerving of praiſe are thoſe moderns, who have yet more univerſally demonſtrated (among which

number

number is Geminus) that equal right lines falling from one point, on a line of ſimilar parts, form equal angles. For Geminus uſing this theorem, ſhews, that there are only three lines, and not more of ſimilar parts, the *right*, the *circular*, and the *cylindric helix*; and this is properly univerſal, to which this ſymptom firſt agrees, juſt as the poſſeſſion of two ſides greater than the third, is ſhewn to be eſſentially inherent in every triangle. It is not, therefore, the property univerſally of every iſoſceles, though it belongs to every one, to poſſeſs angles at the baſe equal: but of equal right lines falling on a line of ſimilar parts. For to ſubtend equal angles, is in theſe primarily inherent.

PROPOSITION VI. THEOREM III.

If two angles of a triangle be equal to each other, the ſides alſo which ſubtend the equal angles, ſhall be equal to one another.

The preſent theorem exhibits theſe two properties of theorems, *converſion*, and *a deduction to an impoſſibility*. For it is converted, indeed, in the preceding theorem, but its certainty is evinced by a deduction to an impoſſibility. It is requiſite, therefore, to ſpeak of each, whatever belongs to the preſent treatiſe. One kind of *converſion* then, among geometricians, is denominated principally and properly, when the concluſions and hypotheſes alternately receive theorems; ſo that the concluſion of the former becomes hypotheſis in the latter; and hypotheſis is inferred as the concluſion. As *that the angles at the baſe of an iſoſceles triangle are equal.* For here the iſoſceles triangle is the *hypotheſis:* but the *concluſion*, the equality of the angles at the baſe. And *that where the angles at the baſe are equal, the triangles are iſoſceles*, which the preſent 6th theorem affirms. For here the equality of the angles at the baſe is the *hypotheſis*; but the *concluſion*, the equality of the ſides ſubtending the equal angles. But another kind of converſion, is alone according to a certain mutation of compoſites. For if the theorem be compoſite, beginning from many hypotheſes, and ending in one concluſion, by receiving the concluſion, and one or more of the hypotheſes, we infer ſome one of the other hypotheſes

as a concluſion. And after this manner the eighth theorem is the converſe of the fourth. For the one ſays, that *equal baſes ſubtend equal ſides and angles*: but the other, that *equal ſides being placed on equal baſes, contain equal angles*. Of which the predication concerning *equal baſes* in the latter propoſition, is the *concluſion* of the former: but the predication concerning the poſition of *equal ſides*, is one of the previouſly aſſumed hypotheſes in the former theorem; and the *comprehenſion of equal angles* is another hypotheſis which this fourth propoſition contains. In conſequence thereſore of theſe two *converſions*, the one which is called the principle, is uniform and determinate: but the other is various, advancing into a great number of theorems, and not converting in one, but in many, on account of the multitude of hypotheſes, in compoſite theorems. But oftentimes in that which begins from two hypotheſes, there is one which is converted, when the hypotheſes are not all determinate, but ſome of them indeterminate

It is here, however, requiſite to obſerve, that many falſe and improper converſions take place. As that *every ſexangular is a triangular number* *. For the converſe is not alſo true, that *every triangular number is ſexangular*. But the reaſon of this is, becauſe the one is more common, but the other more particular. And one is alone predicated *totally* † of the other. But things in which, *that which is primary*, is inherent, and according to which it is received, in theſe, converſion alſo follows. And theſe obſervations, indeed, were not unknown to thoſe mathematicians, the familiars of Menæchmus, and Amphinomus. But of theorems receiving converſion, ſome are uſually called *precedents*, but others *converſe*. For when ſuppoſing a certain genus, they demonſtrate ſome ſymptom of its nature, they call this a *precedent* theorem. But when on the contrary, they make the hypotheſis a ſymptom, and the concluſion a genus, they denominate the theorem to which this happens *converſe*. As for inſtance,

* Triangular numbers, are 1, 3, 6, 10, &c.; and ſexangular numbers 1, 6, 15, 28, &c. But concerning their formation, ſee note to page 95, Vol. I. of this work; by means of which, the truth of this aſſertion will be evident.

† Concerning the meaning of total predication, ſee page 45 of the Diſſertation, Vol. I. of this work.

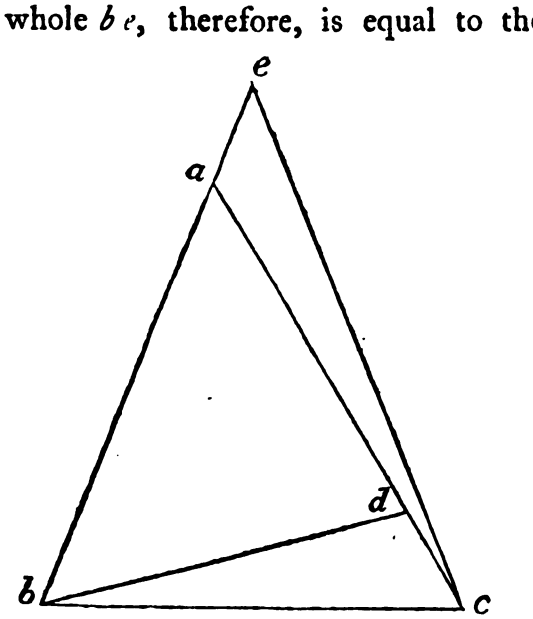
the

the theorem which ſays, *every iſoſceles triangle has the angles at the baſe equal*, is a *precedent*. For that is ſubjoined which precedes by nature, I mean the genus itſelf, or the iſoſceles triangle. But that which ſays, *every triangle poſſeſſing two equal angles, has likewiſe the ſides ſubtending thoſe equal angles equal, and is iſoſceles*, is a *converſe* theorem. For it changes the ſubject, and its paſſion, ſuppoſing the latter, and from this exhibiting the former. And thus much concerning geometrical converſions.

But deductions to an impoſſibility, entirely end in an evident impoſſible, the contrary of which is confeſſed by all. It happens, however, that ſome of them end in ſuch things as are oppoſed to Axioms, or Petitions, or Hypotheſes; but others in things contradicting prior demonſtrations. For the preſent ſixth theorem ſhews that which happens to be impoſſible, becauſe it deſtroys the common conception, affirming that *the whole is greater than its part*. But the eighth theorem falls, indeed, on an impoſſible, yet not on that endued with a power of deſtroying a common conception, but that exhibited by the ſeventh theorem. For what the ſeventh denies, this affirming exhibits to ſuch as do not admit the object of inveſtigation. But every deduction to an impoſſibility, which being received, oppoſes *the thing ſought*, and on this hypotheſis advances, until it falls upon the explored abſurdity, and by this means deſtroys the hypotheſis, corroborates that which was inveſtigated from the firſt. But it is requiſite to know, that all mathematical proofs are either *from principles*, or *to principles*, as Porphyry in a certain place affirms. And the proofs *from principles*, are two-fold. For they either emanate from common conceptions, and things ſelf-evident: or from things previouſly exhibited. But proofs *to principles* are endued with a power of either *eſtabliſhing* or *deſtroying principles*. And thoſe, endued with a power of *eſtabliſhing principles*, are called *reſolutions*; and to theſe compoſitions are oppoſed. For it is poſſible that we may proceed in an orderly method from thoſe principles to the object of inveſtigation; and this is nothing elſe than compoſition. But thoſe poſſeſſing a power of *deſtroying principles*, are called *deductions to an impoſſibility*. For it

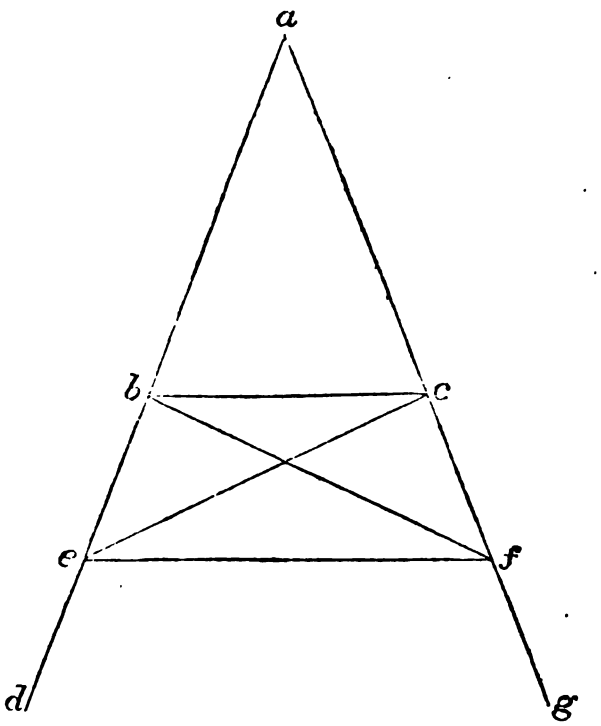
is the buſineſs of this mode to deſtroy ſome of the conceſſions, and objects of inveſtigation. And in this, alſo, there is a certain ratiocination, though not the ſame as in reſolution. For in deductions to an impoſſibility, *complexion* is according to the ſecond mode of hypothetical reaſonings. As if *in triangles poſſeſſing equal angles, the ſides ſubtending the equal angles are unequal; and the whole is equal to its part:* but this is impoſſible. *In triangles, therefore, poſſeſſing two equal angles, the ſides ſubtending the equal angles are equal.* And thus much concerning what is called by geometricians, deduction to an impoſſibility.

But the inſtitutor of the elements uſes *converſion* in the preſent propoſition, for he receives the concluſion of the fifth as a datum, and adds its hypotheſis as an object of enquiry: but he employs *deduction to an impoſſibility*, in the conſtruction and demonſtration. But if any ſhould riſe up, and aſſert that it is not neceſſary by taking a part from *a c* equal to *a b*, to make the ablation at the point *c*, but at the point *a*, upon this hypotheſis, we ſhall fall into the ſame impoſſibility. For let *a b* be equal to *a d*, and having produced *b a*, let *a e* be placed equal to *dc*. The whole *b e*, therefore, is equal to the whole *a c*.



Let *e c* be connected. Becauſe, therefore, *a c* is equal to *b e*, but *b c* is

b c is common, the two are equal to the two, and the angle at the point *b*, is equal to the angle *a c b*. For ſo it was eſtabliſhed in the hypotheſis. All, therefore, are equal to all, by the fourth theorem. Hence, the triangle *e b c*, is equal to the triangle *a b c*, the whole to the part, which is impoſſible. But becauſe this alſo is manifeſt, it remains that we exhibit the reſt of the converſion. For the inſtitutor of the Elements converts the whole ſixth theorem from a part of the fifth. But it is requiſite to adjoin the remaining converſion. This, then, he receives as an hypotheſis, *that the angles at the baſe of a certain triangle are equal:* but he ſhews that the triangle is *iſoſceles*. Let *a c b*, therefore, be a triangle, and let *a b*, *a c*, be produced to the



points *d g*, and let the angles under the baſe be equal. I ſay that the triangle *a b c*, is iſoſceles. For let there be aſſumed in the line *a d*, the point *e*, and let *b e* be taken equal to *c f*; and connect the lines *e c*, *b f*, *e f*. Becauſe, therefore *b e* is equal to *c f*, but *b c* is common, the two will be equal to the two. And the angle *e b c*, is

equal to the angle *f c b*; for they are under the baſe. All, therefore, are equal to all, by the fourth theotem. Hence the baſe *e c*, is equal to the baſe *f b*, and the angle *b e c*, to the angle *c f b*; and the angle *c b f*, to the angle *b c e*: for they ſubtend equal ſides. But the whole angle *e b c*, was equal to the whole *f c b*, of which the angle *f b c*, is equal to the angle *e c b*. The remainder, therefore, *e b f*, is equal to the remainder *f c e*. But *b e* is equal to *c f*, and *b f* to *c e*, and they contain equal angles. All, therefore, are equal to all. Hence, alſo, the angle *b e f*, is equal to the angle *c f e*. Wherefore, the ſide *a e*, is equal to the ſide *a f* (for it is ſhewn by the ſixth) of which *b e*, is equal to *c f*. The remainder, therefore, *a b*, is equal to the remainder *a c*. And hence, the triangle *a b c*, is iſoſceles. It is, therefore, as well iſoſceles, if it poſſeſſes angles at the baſe equal: as if the ſides being produced it has the angles under the baſe equal. Why then did not the inſtitutor of the Elements convert the remaining part? Shall we ſay it was becauſe the equality of the angles under the baſe in the fifth theorem, was exhibited for the ſake of ſolving other doubts. But that proving the triangle to be iſoſceles, from the equality of the angles under the baſe, neither confers to a principal demonſtration, nor to the ſolution of things inveſtigated, the truth of which is confirmed in the following theorems, and that from the equality of the angles under the baſe, he is enabled to demonſtrate that the triangle is iſoſceles? For if every right line, ſtanding upon a right line, and forming two angles, makes them equal to two right; when the angles under the baſe are equal, thoſe upon the baſe will be equal. And theſe being equal, the ſides ſubtending them ſhall be equal. Euclid, therefore, having uſed this in the whole elementary inſtitution, was enabled to conclude, that when the angles under the baſe are equal, the triangle is iſoſceles. Indeed he requires this alſo, for the demonſtration of certain theorems: For ſhortly a theorem will appear, evincing, that if a right line ſtanding on a right line, forms angles, it will either make two right, or angles equal to two right. And the theorems, indeed, preceding this, require no ſuch converſion; but thoſe which follow, are indigent of this, and eſtabliſh their credibility from the preſent theorem.

PRO-

PROPOSITION VII. THEOREM IV.

* Upon the ſame right line, two right lines cannot be conſtituted equal to two other right lines each to each, *drawn* to different points, to the ſame parts, and having the ſame extremes with the two right lines firſt drawn.

The preſent theorem poſſeſſes a rare property, which is not frequently found in propoſitions producing ſcience. For to be formed by negation, and not by affirmation, is not their ſufficiently diſtinguiſhing property Indeed, the propoſitions, as well of geometrical as of arithmetical theorems, are for the moſt part affirmations. But the reaſons of this is, (as Ariſtotle ſays) becauſe, an affirmative univerſal, eſpecially agrees with ſciences, as more proper, and not indigent of negation: but a univerſal negative requires affirmation, in order to produce evidence; for from negatives alone, there is neither demonſtration nor reaſoning. Hence, demonſtrative ſciences exhibit a multitude of affirmations, but rarely employ negative concluſions. However, the propoſition of this theorem is full of admirable diligence, and is bound with every addition, by which it is rendered ſo certain and indubitable, that it cannot be confuted and overturned by the efforts of oppoſing calumniators. For in the firſt place, the par-

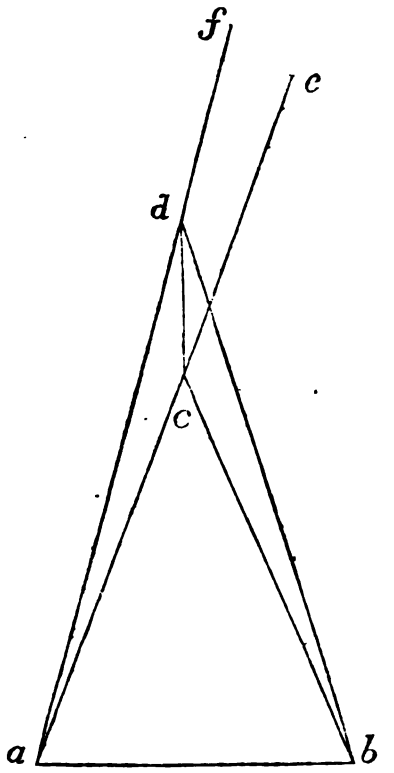
* Mr. Simſon in his note to this propoſition obſerves, that he thought proper to change its enunciation, ſo as to preſerve the ſame meaning; "because (ſays he) the literal tranſlation from the Greek is extremely harſh, and difficult to be underſtood by beginners." Whatever difficulty [illegible] may find in conceiving this propoſition abſtractedly, is eaſily removed by its [illegible] in the figure; and therefore, I conceive, that Mr. Simſon acted very injudiciouſly in altering its enunciation. Beſides, the following comment of Proclus ſhews, that there is great beauty in Euclid's ſtatement of this propoſition; the greateſt part of which is loſt in Mr. Simſon's [illegible] alteration. It would appear ſtrange that [illegible] be taken by one [illegible] in his preface, [illegible] Mr. Simſon had not informed us in a ſo note, that the preſent Commentary of Proclus [illegible] the beauty and accuracy of this propoſition, is [illegible] See more concerning this propoſition in the note on Prop. 5.

ticle *upon the ſame right line*, is aſſumed, leſt we ſhould exhibit upon *another*, two right lines equal each to each, and employ the propoſition for the purpoſe of circumvention. In the ſecond place, he does not ſay upon what right line, to conſtitute two right lines ſimply equal to two (for this is poſſible) but *each to each*. For what wonderful thing is it, that he ſhould take both equal to both, who extends one of the conſtituted lines, and contracts the other? But each to each, (ſays he) is impoſſible. In the third place, he adds the particle, *to different points*. For what, if ſome one, when he has formed two lines equal to the firſt two, each to each, ſhould connect theſe with thoſe in the ſame point, which joins the ſubject right lines in the vertex; and ſhould conſtitute theſe? For the extremes of equal right lines perfectly coincide. In the fourth place, he adds the particle *to the ſame parts* †. For what if one ſubject right line being given, we ſhould place two of the right lines on one ſide, and the other two on the oppoſite ſide, ſo that this common right line ſhould be the baſis of the two triangles with oppoſite vertexes? Leſt, therefore, we ſhould form an erroneous figure, and charge our deception on the inſtitutor of the Elements, he adds the particle *to the ſame parts*. In the fifth place, he ſubjoins, *having the ſame extremes with the two right lines firſt drawn*. For it is poſſible to conſtitute *upon the ſame right line, two right lines equal to two, each to each, drawn to different points, and to the ſame parts*, by employing the whole right line, and conſtructing upon it, theſe two right lines; but then the lines laſt drawn, will not have the ſame extremes with thoſe conſtituted at firſt. For if we conceive in a quadrangle two diagonals drawn on one of its ſides, two lines ſhall be equal to two; a ſide and diameter to its parallel ſide, and the other diameter. But in this caſe the equal right lines will not have the *ſame* extremes. For neither the parallel ſides, nor the diameters, will mutually poſſeſs the ſame extremes; and yet they will be equal. Theſe diſtinctions, therefore, being preſerved, the truth of the propoſition, and the certainty of the reaſoning, is evinced.

† See the Comment of Clavius on this propoſition.

But

But perhaps, ſome, notwithſtanding all theſe terms producing ſcience, will dare to object, that theſe hypotheſes being admitted, it is poſſible to effect what the geometrician affirms to be impoſſible. For



let there be a right line *a b*, and upon this two lines *a d*, *d b*, equal to two *a c*, *c b*, and let the former be external to the latter, being drawn to different points *d c*, and terminated in the ſame extremes *a* and *b*. Let *a c* too, be equal to *a d*: but *b c* to *b d*. This objection, then, we ſhall confute, by connecting the line *d c*, and producing the lines *a c*, and *a d*, to the points *e f*. For theſe being conſtructed, it is manifeſt that the triangle *a c d* is iſoſceles, *a d*, being equal to *a c*, from hypotheſis; and the angles under the baſe *e c d*, *f d c* are equal. The angle *f d c*, therefore, is greater than the angle *b d c*. Much more then is the angle *b c d* greater than the angle *b d c*. But again, becauſe the line *d b*, is equal to the line *b c*, the angles alſo at the baſe are equal, i. e. the angle *b c d*, to the angle *b d c*. The ſame angle, therefore, is both greater and equal, which is impoſſible. And this

is what we ſaid in our expoſition of the fifth theorem, that though the equality of the angles under the baſe, was not uſeful to the demonſtrations of the following theorems, yet it procured the greateſt utility in the ſolution of objections. For in the preſent inſtance we have confuted the objection, by inferring that, becauſe *a c*, and *a d*, are equal, the angles *e c d*, and *f d c*, are alſo equal. In a ſimilar manner in other theorems, it will appear to be peculiarly uſeful for the ſolution of doubts*.

But if any one ſhould ſay that there may be conſtituted upon the right line *a b*, right lines *b d*, *b c*, equal to the right lines *a c*, *a d*, of which *b c* may be equal to *a c*, but *b d* to *a d*; and that in this caſe they will be drawn to different points *a* and *b*, to the ſame parts, and will have the ſame extremes with *a c*, and *a d*, viz. *c*, and *d*, what ſhall we reply to this aſſertion? Shall we ſay that it is requiſite to conſtitute the firſt lines, upon the right line *a b*, and their equals upon the ſame right line? For this is what the inſtitutor of the Elements affirms in the propoſition. But here, *a c*, and *a d*, are not conſtituted upon the right line *a b*, but only on one of its points. Hence, the lines *a c*, *c b*, and *a d*, *d b*, which ſtand on the right line *a b*, are different from the right lines, which were placed in the beginning, and to which they ought to be conſtituted equal. Though at the ſame time it is neceſſary that the right lines conſtituted upon *a b*, ſhould be equal to thoſe conſtituted upon *a b*. And thus much may ſuffice for objections againſt the preſent queſtion. But that the preſent theorem is exhibited by the inſtitutor of the elements, by a deduction to an impoſſibility, and that this impoſſible oppoſes the common conception, affirming that *the whole is greater than its part*; and that *the ſame thing cannot be both greater and equal*, is ſufficiently manifeſt. But this theorem ſeems to have been aſſumed for the ſake of the eighth theorem. For it confers to its demonſtration, and is neither ſimply an element, nor elementary: ſince it does not extend its utility to a multitude. And hence, we find it very rarely employed by the geometrician.

* And from hence, alſo appears the emptineſs and arrogance of Mr. Simſon's note to this propoſition, which we have already exploded.

PROPO-

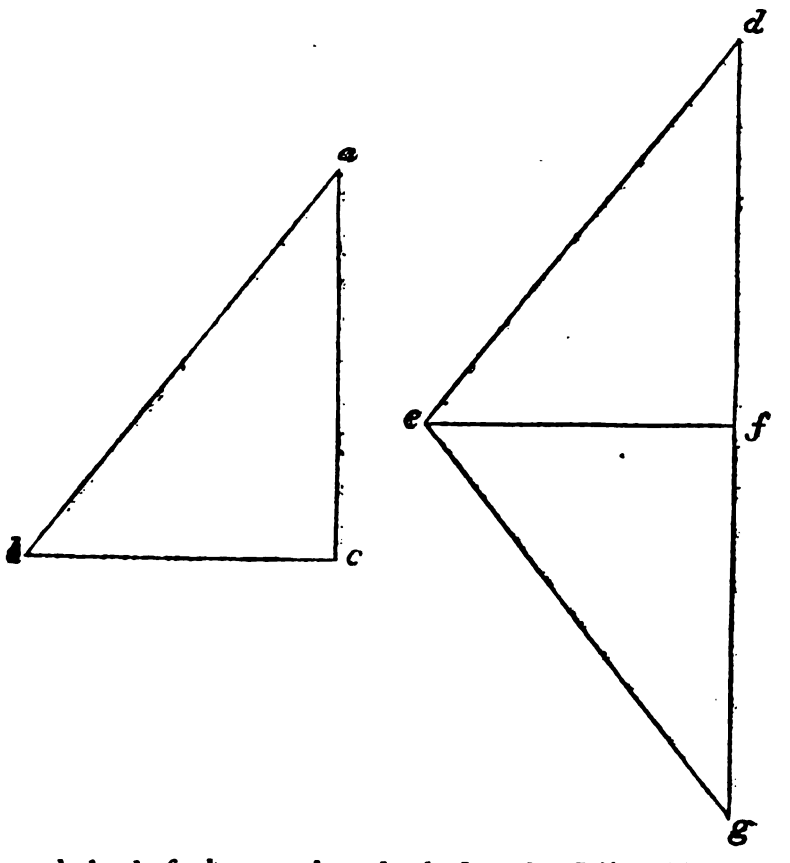
PROPOSITION VIII. THEOREM V.

If two triangles have two ſides equal to two, each to each, and have the baſe equal to the baſe: then the angles contained by the equal right lines, ſhall be equal to each other.

This eighth theorem is the converſe of the fourth: but it is not aſſumed according to a principal converſion. For it does not make the whole of its hypotheſis a concluſion; and the whole concluſion an hypotheſis. But connecting together ſome part of the hypotheſis of the fourth theorem, and ſome part of the objects of enquiry, it exhibits one of the data which it contains. For the equality of two ſides to two, is in each an hypotheſis; but the equality of baſe to baſe, is, in the fourth, an object of inveſtigation, but in the preſent a datum; and the equality of angle to angle, is, in the former, a datum, but in the latter, an object of enquiry. Hence, a change alone of data, and objects of inveſtigation, produces converſion. But if any one deſires to learn the cauſe why this theorem is placed in the order of the eighth propoſition, and not immediately after the fourth, as its converſe, in the ſame manner as the ſixth after the fifth, of which it is the converſe, ſince many converted propoſitions follow their precedents, and are exhibited after them without any intervening medium, to this we muſt reply, that the eighth, indeed, is indigent of the ſeventh propoſition. For its truth is evinced by a deduction to an impoſſibility, but the nature of an impoſſible becomes known from the ſeventh. And, this again, in its demonſtration, is indigent of the fifth. Hence, the ſeventh and fifth theorems were neceſſarily aſſumed, previous to the preſent. But becauſe the *converſe* to the fifth obtained a demonſtration eaſy, and from *things firſt*, it was very properly placed after the fifth, on account of its alliance with that theorem; and be-

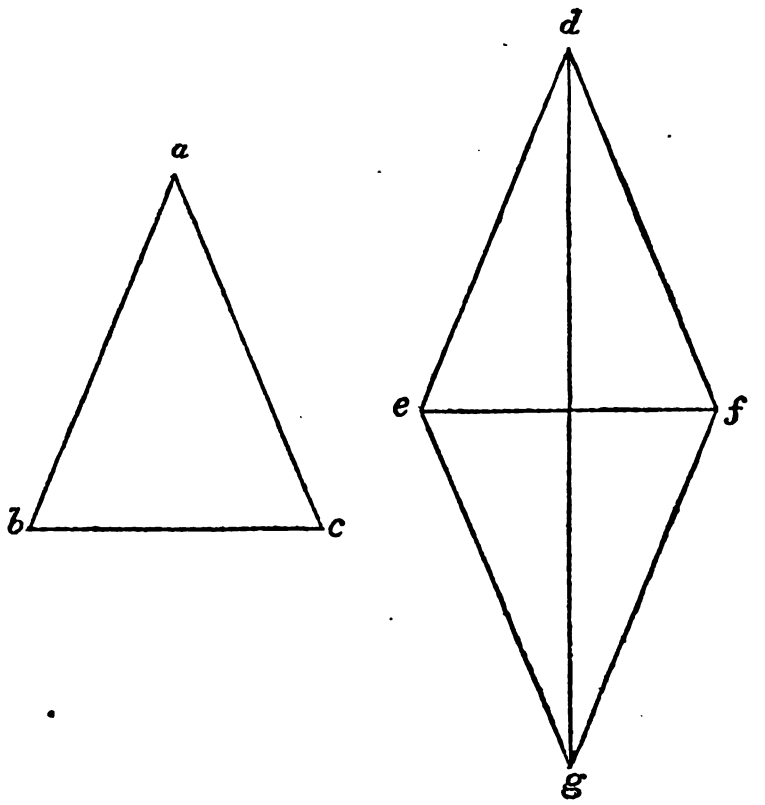
cauſe, ſince it is ſhewn by a deduction to an impoſſibility, it confute that which is impoſſible from common conceptions, and not as th eighth from another theorem. For things oppoſing common concep tions, are more evident for the purpoſe of confutation than ſuch a contradict theorems: ſince theſe are aſſumed by demonſtration, bu the knowlege of axioms is better than demonſtration. But the inſti tutor of the elements exhibits what is now propoſed from the previ ouſly demonſtrated ſeventh theorem.

But the familiars of Philo aſſert, that they can demonſtrate thi theorem, without being indigent of any other. For let there be con ceived (ſay they) two triangles, *a b c*, *d e f*, having two ſides equa



o two, and the baſe *b c* equal to the baſe *e f*. Likewiſe let the baſe coincide

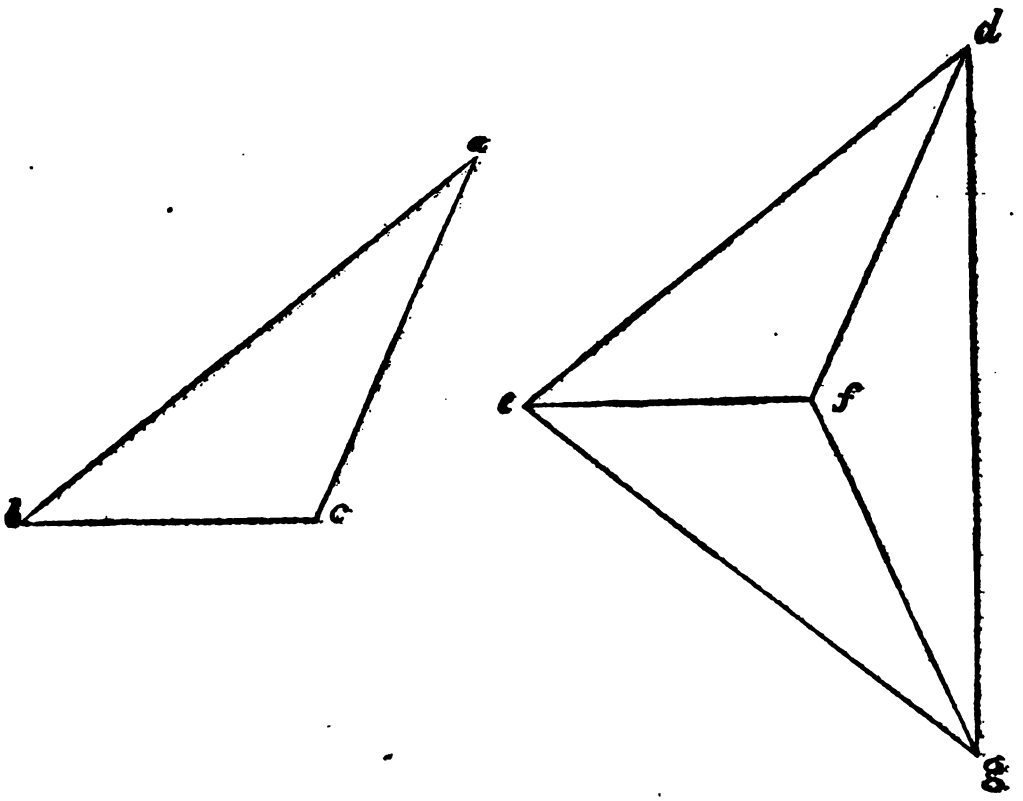
coincide with each other; and let the two triangles *a b c*, *d e f*, be ſo placed in the ſame plane, that their vertices may be oppoſite, and ſo that *e f g* may be the equal ſubſtitute of *a b c*. And let *e g* be equal to *d e*, but *f g* to *d f*. Hence, *f g* will either be placed in a right line with *d f*, or not in a right line. And if not in a right line, it will either make with it an angle according to the internal part, or according to the external. Let it firſt be placed in a right line. Becauſe, therefore, *d e* is equal to *e g*, and *d f g* is one line, the triangle *d e g*, is iſoſceles, and the angle at the point *d*, is equal to the angle at the point *g*. But if it does not lie in a right line, it will make an angle inward; and in this caſe let *d g* be connected.



cauſe, therefore *e d*, *e g*, are equal, and the baſe is *d g*, the angle *e d g* alſo, is equal to the angle *e g d*. Again, becauſe *d f* is equal to

 f g,

f g. and the baſe is *d g*, the angle, alſo, *f d g*, is equal to the angle *f g d*. But the angle *e d g* was alſo equal to the angle *e g d*. Hence, the whole *e df*, is equal to the whole *f g e*, which was required to be demonſtrated. But in the third place, let *f g* make an angle with *d f*, externally, and let the right line *dg* be connected. Becauſe, there-



fore *d e*, *e g*, are equal, and the baſe is *d g*, the angles *e d g*, *d g e*, are equal. Again, becauſe *df*, *f g*, are equal, and the baſe is *d g*, the angle *f d g*, is equal to the angle *f g d*. But the whole angles *e dg*, *d g e*, were mutually equal. Hence, the remaining angles *e d f*, *f g e*, will be equal to each other. And thus the thing propoſed is invented according to any poſition of the right line *f g*, and we may demonſtrate the theorem, without employing the ſeventh propoſition.

Is

Is, then (ſay they), the ſeventh propoſition introduced in vain by the inſtitutor of the elements? For if we only aſſume it on account of the eighth, but the eighth may be exhibited without it, does not the ſeventh appear entirely uſeleſs? To theſe enquiries we muſt reply in the words of our predeceſſors, that the ſeventh theorem, being demonſtrated, is of the greateſt utility to ſuch as are ſkilled in aſtronomical concerns, when they diſcourſe concerning the eclipſes of the ſun and moon. For, employing this theorem, they ſhew that three conſequent eclipſes, diſtant from each other by an equal ſpace, cannot ſubſiſt. I ſay, in ſuch a manner, that the ſecond may be diſtant from the firſt by as great a ſpace of time as the third from the ſecond. For example, if the ſecond is produced after the firſt, when ſix months and twenty days are elapſed; the third, will by no means be produced after the ſecond, by the ſame, but by either a greater or leſs interval of time. But that this is the caſe may be demonſtrated by the ſeventh theorem. And the inſtitutor of the elements has not only exhibited the preſent as conferring to aſtronomy, but a multitude of other theorems and problems. For to what other end ſhall we ſay that the laſt problem of the fourth book was propoſed, by which we are taught how to inſcribe the ſide of a figure of fifteen angles in a circle, than for its relation to aſtronomy? For thoſe who deſcribe in a circle a quindecangle paſſing through the poles, will, by this means, obtain the diſtance of the poles of the equator from the poles of the zodiac. Since they are diſtant from each other by the ſide of a quindecangle. The inſtitutor of the elements, therefore, appears by regarding aſtronomy, to have previouſly exhibited many things preparative to our advancement in that ſcience. But when, at the ſame time, he ſaw that this ſeventh theorem is exhibited from the fifth, and proves the eighth without any variety, he aſſigned it the preſent place. The addition of Philo is, indeed, beautiful, but is not ſufficiently adapted by its variety of caſes to an elementary inſtitution. And thus much in reply to the preſent queſtion.

But

But if any one ſhould doubt why he does not add ſo much in the eighth as in the fourth theorem, I mean, *that the triangles and the remaining angles are equal*; we muſt ſay, that becauſe the equality of the vertical angle is demonſtrated, it follows, that all are equal to all, by the fourth theorem. It was therefore alone neceſſary to demonſtrate this by itſelf, but to aſſume all the reſt as conſequents. But it ſeems that the equality of the vertical angles cauſes the equality of the baſes, and of the ſides comprehending thoſe angles. For when the baſes are unequal, the ſame angles will not remain, though the containing equal ſides are ſuppoſed, but while the baſe becomes leſs, the angle is at the ſame time diminiſhed, and while that increaſes, the angle alſo receives a correſpondent increaſe. Nor while the ſame baſes remain, but the ſides become unequal, will the angle remain; but while they are diminiſhed, it will be increaſed; and while they are increaſed, it will be diminiſhed: for angles, and their containing ſides, ſuffer a contrary paſſion. Thus, if upon the ſame baſe, you conceive the ſides deſcending to the lower part, you will diminiſh the ſides, but increaſe the angle which they comprehend, and enlarge their diſtance from each other. But if you conceive the ſides to be elevated, and to receive an addition as they riſe, you will diminiſh the angle which they contain: for they will coincide the longer, when their vertex is more remote from the baſe. We may therefore certainly affirm that the identity of the baſis and equality of the ſides, in a triangle, determine the equality of its angle.

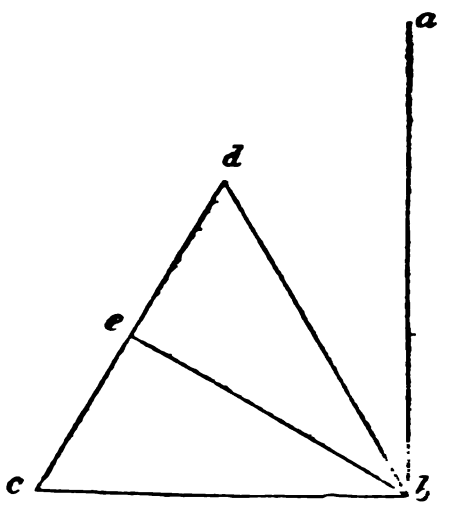
PROPOSITION IX. PROBLEM IV.

To biſect a given rectilineal angle.

Our author mingles theorems with problems, and connects problems with theorems, and through both completes the whole of his elementary inſtitution, comparing as well ſubjects as the *ſymptoms* ſubſiſting about ſubjects themſelves. Since, therefore, he had ſhewn in the preceding propoſitions, both in one triangle, from the equality

fity of the ſides, the conſequent equality of the angles, and the contrary: and in a ſimilar manner in two triangles, with this exception, that the mode of converſion in one and two triangles is different, he now paſſes to problems, and orders us to biſect a rectilineal angle. And it is manifeſt, that the angle here is given according to form: for it is called right-lined, and not of any kind whatever. Indeed, we cannot biſect every angle by the elementary inſtitution; ſince it is doubtful whether every triangle can be biſected. For, perhaps, you may doubt whether it is poſſible to biſect a cornicular angle. But the ratio of the ſection is alſo diſtinguiſhed in this problem, and this again not in vain. For to divide an angle in any given ratio, tranſcends the preſent conſtruction: as, for example, into three, four, or five equal parts. Indeed, to triſect a right angle is poſſible, by employing a few of the propoſitions which are afterwards delivered *:

* This too may be eaſily effected by means of the firſt problem, and the preſent. Thus let *a b c* be a right angle, which it is required to triſect; then, upon the ſide *c b*, deſcribe an equilateral

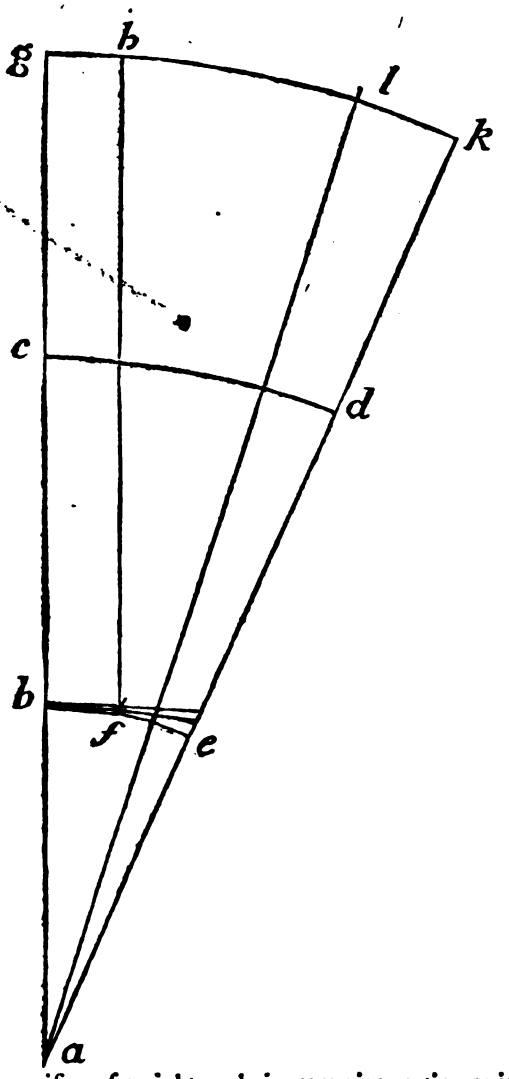


triangle *c d b*, and biſect the angle *d b c*, and the angles *a b d*, *d b e*, *e b c*, ſhall be equal. For the angle *d b c*, is one third of two right angles, or two thirds of one right, and conſequently the angle *d b a*, is one third of a right angle; and this is equal to *d b e*, the half of *d b*. Therefore they are all equal.

but

but this cannot be effected in an acute angle, without paſſing on to other lines of a mixt ſpecies. † And this is manifeſted by the geo-

† The method of dividing an angle in any given ratio, by means of a right line and circle only, ſeems to have been entirely unknown to the ancients, as well as to the moderns. However, the author of this tranſlation preſumes he has diſcovered the means of ſolving this arduous problem; and that ſuch as admit the truth of his demonſtration reſpecting the quadrature of the circle in page 56 of his Diſſertation, vol. I. of this work, muſt neceſſarily ſubſcribe to the following method of dividing an angle in any required proportion. Let there be an acute angle given *g a k*, which it is required to divide in the ratio of the right line *a c* to *c g*. Biſect *a c* in *b*, and from the centre *a*, with the radius *a b*, deſcribe the arch *b e*, and with a radius equal to *a c*, deſcribe an arch touching *b e*, in the point *b*. Likewiſe with a radius double to *a c*, deſcribe another tangent arch at the point *b*, and with a radius equal to *a g*, a tangent arch at the ſame point, according to the figure; and laſtly, let the arches *c d*, *g k*, from the centre *a* be drawn. Then ¼ of the arch *b e*, ſhall be equal to ¼ of *c d*, and to ¼ of the arch ſimilarly placed, deſcribed with a radius the double of *a c*, as is well known. Biſect then *b e* in *f*, and make each of its two next tangent arches at *b*, equal to *b f*, which is eaſily done, from what has been already obſerved; and through the points of equality deſcribe a circle, this (by the theorem in page 56, of our Diſſertation), ſhall cut off ſome part of the tangent arch deſcribed with the radius *a g*, equal to *b f*, or the fourth part of *c d*. Hence, a part in the arch *g k*, may be eaſily taken equal to *c d*, which let be *g l*, and drawing the right line *a l*, the angle *g a l*, ſhall be to *l a k*, as *a c* to *c g*, which was required to be done.

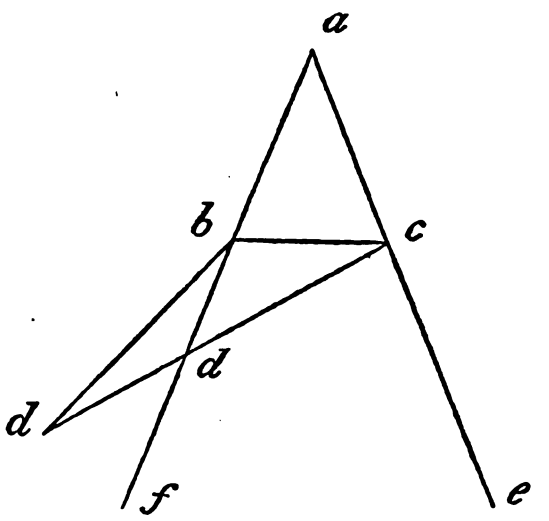


The ſame conſtruction will ſerve for the diviſion of a right angle in any given ratio, as is evident; and if the given angle be obtuſe, the problem may be ſolved by a two-fold operation, that is, by biſecting the obtuſe angle, and dividing either of the equal ſections in the given ratio; for when this is effected, the whole angle may be eaſily divided in the ſame proportion. Hence, too, a right line may be ſpeedily obtained equal to a given arch of a circle.

metricians who propoſe to triſect a given rectilineal angle. For *Nichomedes*, indeed, from conchoidal lines, the origin, order, and ſymptoms of which, he delivers, as he was the inventor of their properties, triſects every right-lined angle. But others effect this from the quadrantal lines of *Hippias* and *Nichomedes*, by employing mixt quadrantal lines. Others, again, being incited from the Helices of *Archimedes*, divide a given rectilineal angle, in a given ratio. But the conſideration of theſe, becauſe difficult to learners, we ſhall for the preſent omit; as it will, perhaps, be more convenient to examine this in the third book *, where the inſtitutor of the Elements biſects a given circumference. For there the ſame mode of enquiry preſents itſelf with reſpect not only to biſection, but alſo triſection; and the ancients endeavoured, by employing the ſame lines, to divide every circumference into three equal parts. With great propriety, therefore, he who only mentions a right line and a circumference, alone biſects a right angle and a circumference. But conceiving that the ſpecies compoſed from theſe, through mixture, are difficult to explain and enumerate, without a curious examination, he omits all ſuch enquiries as involve mixt lines in their conſideration, and propoſes to inveſtigate in firſt and ſimple forms alone, ſuch things as can either be produced or conſidered from theſe. And ſuch, indeed, is the propoſition of the preſent problem, *to biſect a given right lined angle*. For in the conſtruction of this he uſes one petition, and the firſt and third problem: but in the demonſtration he employs the eighth theorem alone. Since problems entirely require demonſtration (as we have already obſerved †) and through this they obtain a power of producing ſcience. But perhaps, ſome may oppoſe the geometrician, by aſſerting that an equilateral triangle may be conſtituted by him, not having its vertex within the two right lines, but either upon, or external to each; and that this may be manifeſted by the elements. For let there

* In the 30th Prop. † See Chap. 8. Book 2d.

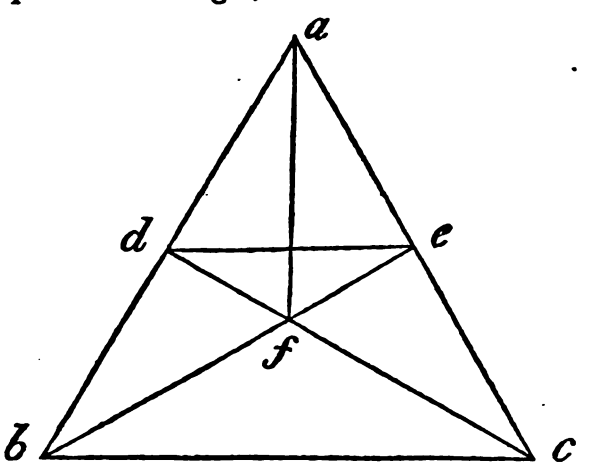
be an angle *b a c*, which it is required to biſect. Then let *b a* be taken equal to *a c*, and let *b c* be connected, and upon it, let an



equilateral triangle *b c d* be conſtructed. This point *d*, therefore, is either within the right lines *a b*, *a c*, or upon *a b*, or *a c*, or external to both. Now the inſtitutor of the Elements aſſumes them within; and hence, thoſe who oppoſe the demonſtration, will ſay the point is either placed on one of the right lines, or external to both. Let the point *d* then be placed on the line *a b*, ſo that the triangle *b c d* may be equilateral: *d b*, therefore, is equal to *d c*, and the angles at the baſe *c b d*, *b c d*, are equal. Hence, the whole, *b c e*, is greater than the angle *c b d*. Again, becauſe *a b*, *c a*, are equal, the triangle *a b c*, is iſoſceles, and the angles under the baſe *b c*, will be equal. The angle, therefore, *b c e*, is equal to the angle *c b d*. But it was alſo greater, which is impoſſible. Hence, the vertex of the equilateral triangle cannot be in the right line *a b d*. In like manner we may ſhew that it cannot be in the right line *a c e*. Let it therefore, if poſſible be placed externally. Becauſe, then *b d* is equal to *c d*, the angles at the baſe are equal, viz. *b c d*, and *c b d*. Hence, the

angle *b c d*, is greater than the angle *c b f*. Much more, therefore, is the angle *b c e*, greater than *c b f*: but it is alſo equal, becauſe theſe angles are under the baſe *b c*, of an iſoſceles triangle *a b c*, and this is impoſſible. Hence, the point cannot fall in theſe parts external to the two right lines; and it may be ſimilarly ſhewn that this is impoſſible in other parts. Here too you may again obſerve, that we deſtroy objections by uſing the ſecond part of the fifth propoſition, *that the angles under the baſe of an iſoſceles triangle are equal.* And this is what we have previouſly obſerved, that many things oppoſing ſcience, are ſhewn to be debile, and eaſy of confutation, by the aſſiſtance of this theorem; and that ſuch is the utility it affords to geometry.

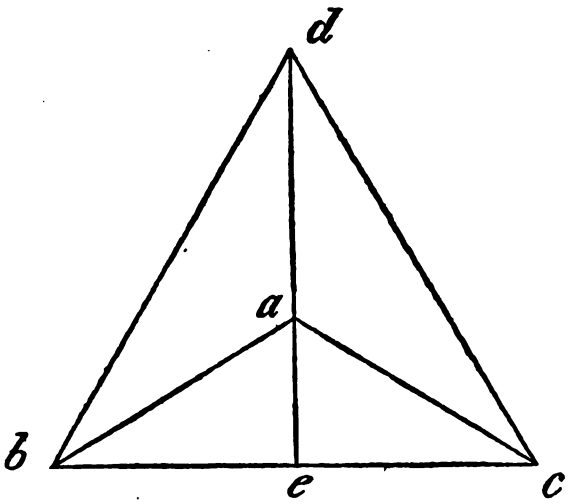
But if any one ſhould ſay that there is no place under the baſe, and yet that it is requiſite to conſtitute the equilateral triangle at the ſame parts, in which the lines *b a*, *a c*, are ſituated; it will be neceſſary that the lines which are conſtituted ſhould either coincide with *b a*, *a c*, if they alſo are equal to the baſe *c b*: or that they ſhould fall external to them, if they are leſs than the baſe *b c*: or within, if *b a*, *a c*, are greater than *b c*. Let them, in the firſt place, coincide, and let *b a c* be an equilateral triangle, and let there be taken in the ſide



a b, the point *d*, and make *a e* in the ſide *a c*, equal to *a d*, and con-

nect the lines *d e*, *b e*, *c d*, *a f*. Becauſe, therefore, *a b* is equal to *a c*, and *a d* to *a e*, the two *b a*, *a e*, are equal to the two *c a*, *a d*, and they comprehend the ſame angle. Hence, they are all equal to all, and the angle *d b e*, is equal to the angle *e c d*. But *d b* is alſo equal to *e c*, and *b e* to *c d*. All, therefore, are equal to all. Hence, the angle *d e b*, is equal to the angle *e d c*: for they ſubtend equal ſides. And *d f* is equal to *e f*, (by the fixth.) Becauſe, therefore, *a e* is equal to *a d*, and *a f* is common, and the baſe *d f*, is equal to the baſe *e f*, the angle *d a e* is biſected, which was required to be done.

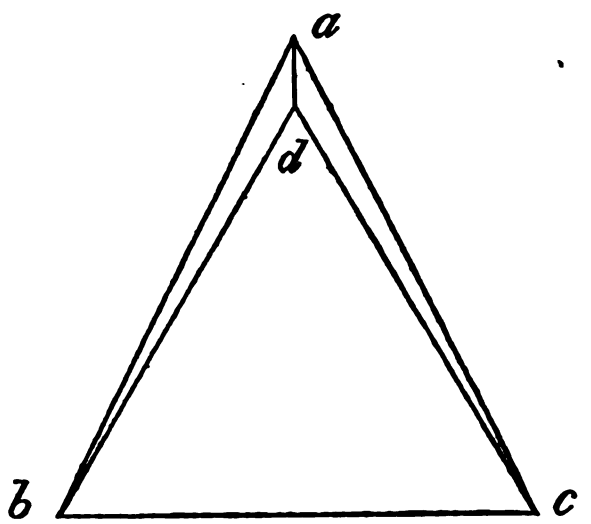
But if the ſides of the equilateral triangle fall external to the right lines *b a*, *a c*, let them be *b d*, *d c*, and having connected *d a*, let it be produced to the point *e*. Becauſe, therefore *b d*, *d c*, are equal,



but *d a* is common, and the baſes *b a*, *a c*, are equal, the angle, alſo, *b d a*, (by the eighth) is equal to the angle *c d a*. Again, *b d*, *d c*, are equal, and *d e* is common. and they contain equal angles as we have ſhewn, the baſe alſo *b e*, is equal (by the fourth) to the baſe *e c*. Becauſe, therefore, *a b* is equal to *a c*, and *a e* is common, the angle, alſo *b a e*, is equal to the angle *c a e*, which was to be ſhewn.

But if the ſides of the equilateral triangle fall within the right lines *a b*, *a c*, as *b d*, *d c*, let again *a d* be connected. Becauſe, therefore, *b a*,

is



is equal to *a c*, and *a d* is common, but the baſe *b d*, is equal to the baſe *c d*, hence, the angle *b a d* (by the eighth) is equal to *c a d*. The angle, therefore, at the point *a*, is biſected, in whatever manner the equilateral triangle may be conſtituted. And having thus ſummarily ſpoken concerning theſe, we ſhall now proceed to the following theorems, only adding, that the given angle may be given in a four-fold reſpect. *In poſition*, as when we ſay *to this right line, and to this point to place an angle*: for after this manner it is given. But *in form*, as when we call the angle right, or acute, obtuſe, right-lined, or mixed. And *in proportion*, as when we call it double, or triple, greater, or leſs. And laſtly, *in magnitude*, as when we call it the third part of a right angle. But the preſent angle is only given in form.

PROPOSITION X. Problem V.

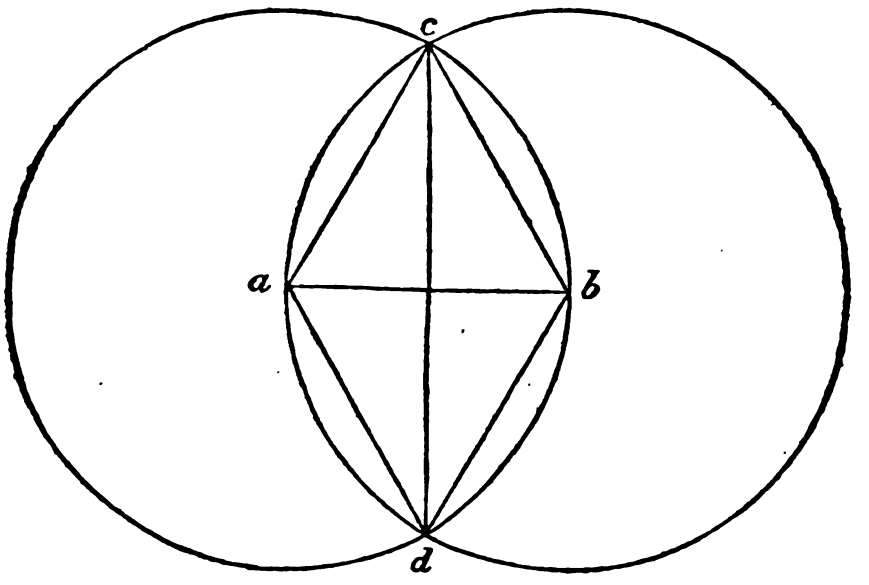
To biſect a given finite right line.

This, alſo, is a problem which ſuppoſes a finite right line, ſince we cannot terminate a line on both ſides infinite. But the ſection of a line infinite on one ſide only, wherever the point is aſſumed, is made in

in unequal parts. For that part of the ſection which takes place on the infinite ſide, is neceſſarily greater than the remainder, becauſe finite. Hence, the line required to be biſected, muſt be neceſſarily both ways finite. But perhaps, ſome excited by this problem, may think, that the doctrine of a line, not being compoſed from impartibles, is only previouſly received by geometricians as an hypotheſis. For if it conſiſts from impartibles, it either becomes finite, and receives its completion from *odd*, or from *even* parts. But if from ſuch as are *odd*, it will appear that an impartible alſo may be cut, while a right line is biſected. And if from ſuch as are even, the ſection will be unequal, becauſe, one part, as compoſed from more impartibles, will be greater than the remainder. It is therefore impoſſible to biſect a given right line, if magnitude conſiſts from impartibles. But if it be not compoſed from impartibles, it may be divided in infinitum. It appears, therefore, (ſay they) to be received by common conſent, and to be a geometrical principle, that magnitude is among the number of things infinitely diviſible. Againſt theſe we reply in the words of Geminus, that geometricians previouſly receive according to a common conception, that continued quantity is diviſible. For we call that continuous, which is compoſed from conjoined parts, and this it is in every reſpect poſſible to divide. But that continued quantity may be infinitely divided, they do not previouſly aſſume, but demonſtrate from proper principles. For when they ſhew that incommenſurability is found in magnitudes, and that all are not commenſurable with each other, what elſe can we ſay they evince by this means, except this, that every magnitude may be divided into parts always diviſible, and that we can never arrive at an impartible, by the moſt unwearied analyſis, ſince this minimum would be the common meaſure of all magnitudes? This then is demonſtrable, but that which ſays, *every thing continuous is diviſible*, is an axiom. Hence, ſince a finite line alſo is continuous, it is diviſible. And from this conception the inſtitutor of the Elements cuts a finite right line into equal parts,

parts, but not as pre-aſſuming, that it is diviſible in infinitum. For to be merely diviſible, and to be infinitely diviſible is not the ſame.

But the diſcourſe of Zenocrates inferring indiviſible lines, is confuted by this problem. For if it be a line, it is either right, and may be biſected; or circular, and it is greater than a certain right line; (ſince every circular has a certain right line leſs than itſelf); or it is mixt, and on this account is the more diviſible, ſince compoſed from ſimple diviſible lines. But this muſt be deferred to ſome poſterior ſpeculation. However, the geometrician biſects a finite right line, employing in the conſtruction the firſt and ninth propoſitions; but uſing in the demonſtration the fourth alone; for by the angles he ſhews the equality of the baſes. But Apollonius Pergæus biſects a given finite right line after the following manner. Let there be (ſays he) a finite right line *a b*, which we are required to biſect, and with



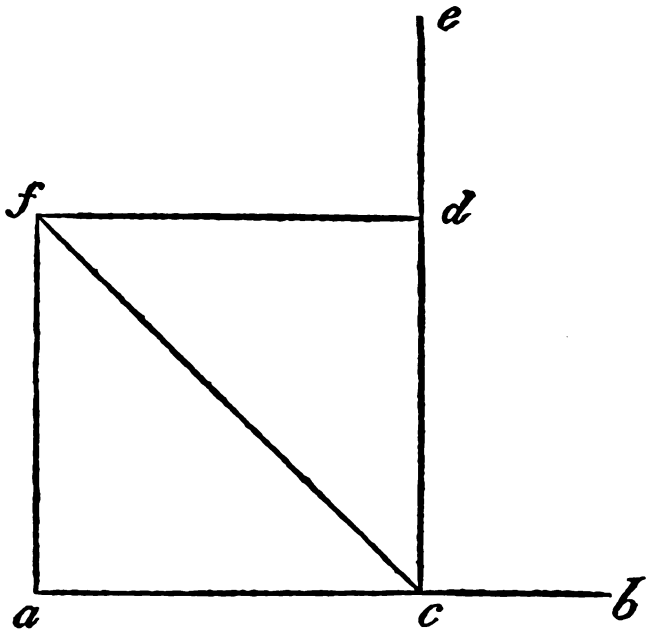
the centre *a*, but interval *a b*, let a circle be deſcribed. And again, with the centre *b*, but interval *b a*, let another circle be deſcribed, and let the right line *c d*, connect the common ſections of the circles; this

this ſhall biſect the right line *a b*. For let the equal lines *d a*, *d b*, *c a*, *c b*, be connected; theſe being equal, becauſe each is equal to *a b*. But *c d* is common, and *d a* is equal to *d b* on the ſame account. Hence the angle *a c d*, is equal to the angle *b c d*; and ſo (by the fourth) *a b* is biſected. Such then, according to Apollonius, is the demonſtration of this problem, aſſumed, alſo, from an equilateral triangle; but inſtead of exhibiting the biſection of the line, from the biſection of the angle at the point *c*, it ſhews this from the equality of the baſes. The demonſtration, therefore, of the inſtitutor of the Elements, is much better, ſince it is both more ſimple, and emanates from principles.

PROPOSITION XI. Problem VI.

To raiſe a right line at right angles, to a given right line, from a given point in that line.

Whether we receive a right line on both ſides finite, or on both ſides infinite, or on one ſide infinite but on the other finite, and a point in it, the conſtruction of the preſent problem will conveniently ſucceed to the geometrician. For though the given point ſhould be on the extremity of the right line, by producing it we can accompliſh our purpoſe. But it is manifeſt that the point in the preſent problem is given in *poſition*, ſince it can only be placed in poſition in a right line. But the right line is given according to *form*; ſince its magnitude is not diſtinguiſhed either by proportion or poſition. Hence, the inſtitutor of the Elements, employing the firſt and third problem, together with the eighth propoſition, and the tenth definition, exhibits the thing propoſed. But if any placing the point on the extremity of the right line, ſhould aſk us without producing the line, to erect upon this a right line at right angles, we can likewiſe ſhew that this is poſſible to be effected. For let there be a right line *a b*, and a given



a given point in it *a*, and let there be aſſumed in the line *a b*, any point *c*, and from this (as the preſent element teaches us) let a right line *c e* be erected at right angles to *a b*. Then from *c e*, let *c d* be taken equal to *a c*, and let the angle at the point *c* be biſected by the line *c f*, and at the point *d* let a right line be erected at right angles, coinciding with *f c* in *f*; and laſtly from the point *f*, to the point *a*, let *f a* be connected. I ſay that the angle at the point *a* is right. For ſince *d c* is equal to *c a*, but *c f* is common, and contains equal angles, (for the angle at the point *c* was biſected) hence, *d f* is equal to *f a*, and all in like manner (by the fourth) are equal to all. The angle, therefore, at the point *a*, is equal to the angle at *d*. But the angle at the point *d* is right; and ſo conſequently is the angle at *a*. And thus the thing required is effected. But the inſtitutor of the Elements was not indigent of any ſuch artifice: for he commands us to raiſe a line at right angles, but not at one right. It is requiſite, therefore, not to receive the point in the extremity of the right line, becauſe the perpendicular line forms angles with its ſubject right line, but not one angle alone.

PROPOSITION XII. Problem VII.

Upon a given infinite * right line, and from a given point which is not in that line, to let fall a perpendicular.

Oenopides firſt inveſtigated this problem, believing it uſeful for aſtrological purpoſes. But he calls a perpendicular, after the manner of the ancients, a gnomon, becauſe a gnomon, alſo, is at right angles to the horizon, but the ſame line is at right angles with a perpendicular, from which it differs only in habitude, ſince, as he obſerves a gnomon has the ſame ſubject with a perpendicular. But again, a perpendicular is two-fold, that is, it is either plane or ſolid. Hence, when the point from which the perpendicular right line is drawn, is in the ſame plane, the perpendicular is called plane; but when the point is on high, and external to the ſubject plane, it is called ſolid. And the plane perpendicular, indeed, is drawn to a right line: but the ſolid to a plane. Hence, it is neceſſary, that this laſt ſhould not only form right angles, with one right line, but with all right lines in the ſame plane. For the perpendicular is let fall on a plane. In the preſent problem, therefore, the inſtitutor of the Elements propoſes to let fall a plane perpendicular. For the deduction is propoſed to a right line, and the diſcourſe proceeds, ſo far as all are ſuppoſed to be in the ſame plane. Hence, in the line at right angles we do not require infinity, becauſe the point is ſuppoſed to be in that right line. But in the preſent problem, reſpecting a perpendicular, he ſuppoſes the given right line infinite, becauſe the point from which the perpendicular is to be drawn is placed external to the right line. For if

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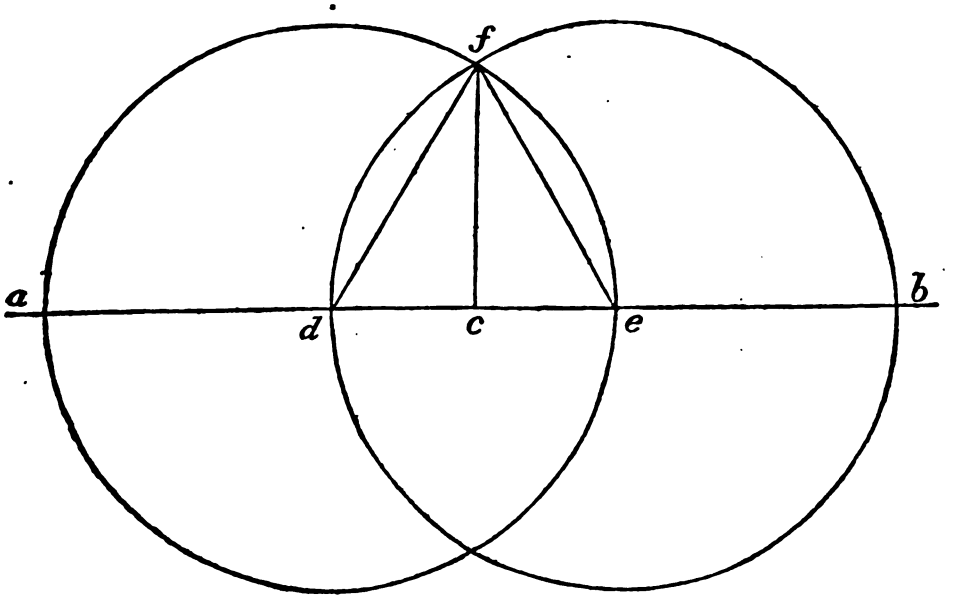
But Apollonius raiſes a perpendicular as follows. Let the given right line, ſays he, be *a b*, and a given point in it *c*, but let there be



aſſumed in *a c* any point *d*, and from *c b*, take away *c e*, equal to *c d*. Then with the centre *d*, but interval *d e*, let a circle be deſcribed; and again with the centre *e*, but interval *e d*, let another circle be deſcribed, and let a right line be drawn from *f* to *c*. I ſay that *f c* is a perpendicular. For if *f d*, *f e*, are connected, they ſhall be equal. But *d c*, *c e*, are equal, and *f c* is common. Hence, alſo, the angles at the point *c* (by the eighth) are equal. They are therefore right. And here, is it not again obvious, that this demonſtration is more various than that of Euclid, and requires the deſcription of circles, that by this means an equilateral triangle may be deſcribed upon *d e*, and the problem exhibited? For all the reſt are common to the demonſtrations. But the demonſtration by a ſemicircle is not worthy to be remembered, ſince it ſuppoſes many things which are afterwards exhibited, and entirely falls from the order of an elementary inſtitution.

PROPO-

PROPOSITION XII. PROBLEM VII.

Upon a given infinite * right line, and from a given point which is not in that line, to let fall a perpendicular.

Oenopides firſt inveſtigated this problem, believing it uſeful for aſtrological purpoſes. But he calls a perpendicular, after the manner of the ancients, a gnomon, becauſe a gnomon, alſo, is at right angles to the horizon, but the ſame line is at right angles with a perpendicular, from which it differs only in habitude, ſince, as he obſerves a gnomon has the ſame ſubject with a perpendicular. But again, a perpendicular is two-fold, that is, it is either plane or ſolid. Hence, when the point from which the perpendicular right line is drawn, is in the ſame plane, the perpendicular is called plane; but when the point is on high, and external to the ſubject plane, it is called ſolid. And the plane perpendicular, indeed, is drawn to a right line: but the ſolid to a plane. Hence, it is neceſſary, that this laſt ſhould not only form right angles, with one right line, but with all right lines in the ſame plane. For the perpendicular is let fall on a plane. In the preſent problem, therefore, the inſtitutor of the Elements propoſes to let fall a plane perpendicular. For the deduction is propoſed to a right line, and the diſcourſe proceeds, ſo far as all are ſuppoſed to be in the ſame plane. Hence, in the line at right angles we do not require infinity, becauſe the point is ſuppoſed to be in that right line. But in the preſent problem, reſpecting a perpendicular, he ſuppoſes the given right line infinite, becauſe the point from which the perpendicular is to be drawn is placed external to the right line. For if

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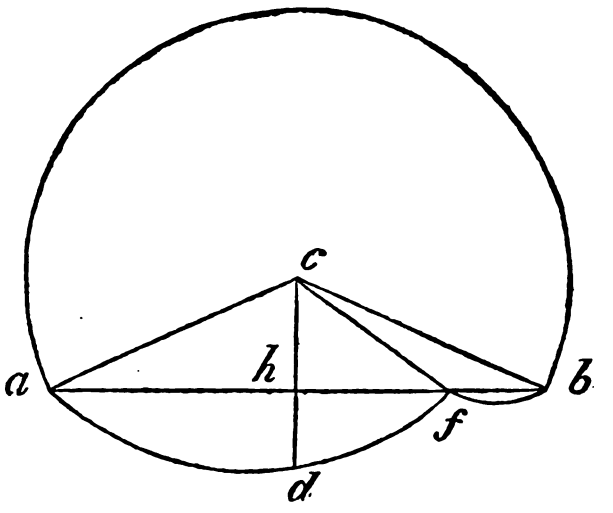
it was not infinite, the point might be received externally, and yet in a direct poſition, ſo that the protracted right line would fall upon it, and the problem not ſucceed. Hence, he places the right line infinite, ſo that the point may be received at either of its parts; and that no place may be left, in which it can be in the ſame direction with the given right line, unleſs it is in the line, and has not an external poſition. And on this account the right line to which the perpendicular is to be drawn is conſidered as infinite.

But in what manner infinite can ſubſiſt, is a matter well worthy our contemplation. For it is manifeſt that a right line exiſting infinite, a plane alſo will be infinite, and this in energy, if the thing propoſed by Euclid be true. That among ſenſible particulars, therefore, there can be no magnitude infinite, according to any diſtance, both the dæmoniacal Ariſtotle, and thoſe who received their philoſophy from him, have abundantly ſhewn. For neither that which is moved circularly, nor any other ſimple body can be infinite; ſince the place of each is limited. But neither in ſeparate and impartible reaſons is an infinite of this kind poſſible. For if they neither contain dimenſion, nor magnitude, much leſs can they contain infinite magnitude. It remains, therefore, that infinite can alone ſubſiſt in the phantaſy, which at the ſame time the phantaſy does not comprehend. For as ſoon as it underſtands, it induces form and bound to that which is underſtood, ſtops the tranſit of the phantaſm by its intellection, purſues its progreſs, and infolds it in its ſhadowy embrace. The phantaſy, therefore, is not infinite by intellection, but rather by advancing infinitely about that which is underſtood; and calling whatever it leaves innumerable, and incomprehenſible by intelligence, infinite. For as the ſight by not ſeeing underſtands darkneſs; ſo the phantaſy by not underſtanding perceives infinite. Hence it purſues the progreſs of the infinite, becauſe it is endued with an impartible power, capable of perpetually advancing: but it underſtands as if ſtopping in its progreſſion, becauſe infinite ſurpaſſes its comprehenſion. For it calls that infinite, which it leaves as unable to paſs over in its purſuit. On this account when we place a given infinite line in the phantaſy, in the

the ſame manner as we eſtabliſh all other geometrical ſpecies, viz. triangles, circles, angles, lines, and all of this kind, we muſt not wonder how a line is infinite in energy, and how advancing infinitely, it applies itſelf to finite intellections. But cogitation, in which reaſons and demonſtrations reſide, does not uſe infinite for the purpoſe of ſcience, ſince infinite is by no means perceptible by ſcience, but receiving it from hypotheſis, it employs finite alone in its demonſtrations, and aſſumes infinite not for the ſake of infinite, but of that which is bounded and finite. For if we ſhould grant to cogitation, that the given point, neither lies in a right line with the given finite right line, nor yet is ſo diſtant from it, that no part of the right line is ſubjected to the point, we ſhall no longer require an infinite line. That cogitation, therefore, when employing a right line, may uſe it without controverſy and reproof, ſhe ſuppoſes it to be infinite; and employs the infinity of the phantaſy, as the foundation of infinite generation. And thus much may ſuffice for the preſent concerning the nature of infinite.

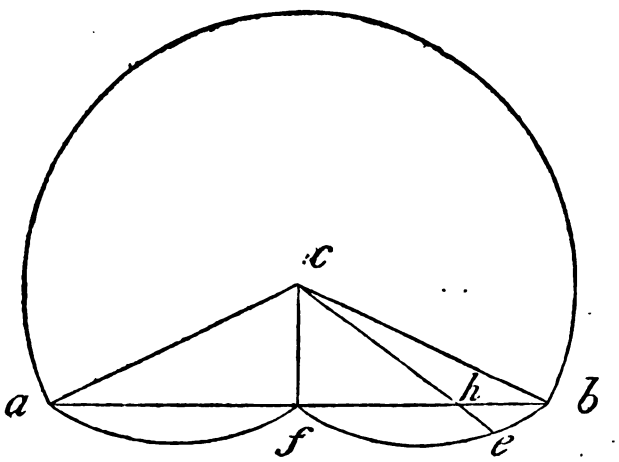
But it is now requiſite that we ſhould conſider the objections which are urged againſt the conſtruction of this problem. Let there be re-



ceived, ſay they, an infinite right line *a b*, and let the given point be *c*, from which it is required to let fall a perpendicular, and let *d* be a point on the other ſide, according to the geometrician. But the circle

cle which cuts the right line *a b*, in the points *a* and *b*, will cut it alſo in *f*, and will have a ſituation according to the figure. In anſwer to this, we muſt ſay, that it affirms an impoſſible caſe. For let the right line *a b* be biſected in *h*, and let *c h* be connected, and produced to the circumference, to the point *d*, and let *c a*, *c b*, *c f*, be connected. Becauſe, therefore, theſe lines are from the centre, and *a h*, is equal to *h b*, but *c h* is common, all are equal to all. Hence *c h* forms right angles at the point *h*. Again, becauſe *c a*, *c b*, are equal, they form equal angles at the points *a* and *b*. But *c a* alſo, is equal to *c f*, on which account the angle *c a f*, is equal to the angle *c f a*. In like manner the angle *c b f* is equal to the angle *c f b*. Becauſe, therefore, the angles at the points *a* and *b*, are equal, the angle, alſo, *c f a*, is equal to the angle *c f b*, and they are ſucceſſive, and conſequently right. But each of the angles at the point *h* is right. Hence, *c h* is equal to *c f*. But *c f* is alſo equal to *c d*, ſince they are from the centre. Therefore *c h* is equal to *c d*, which is impoſſible. Hence, the circle does not cut the right line in any other points than *a* and *b*.

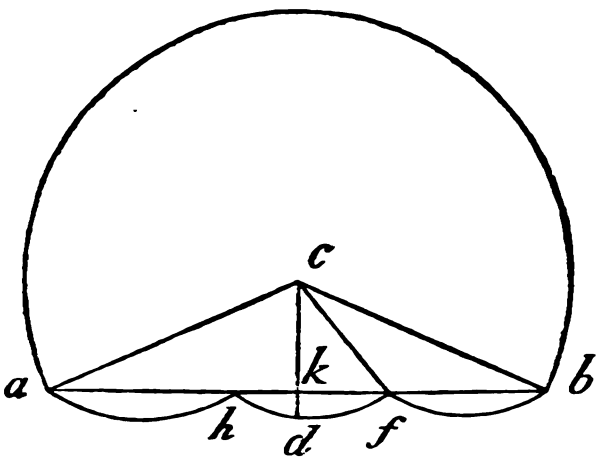
But if any one ſhould ſay, that he who deſcribes a circle will biſect *a b* in *f*, we can again ſhew that this is impoſſible. For let all be deſcribed as before, and let the right line *f b*, be biſected in the point *h*.



Becauſe, therefore, *a f*, *f b*, are equal, but *c f* common, and the baſe *c a*, is equal to the baſe *c b*, all are equal to all. Hence, the angles at the

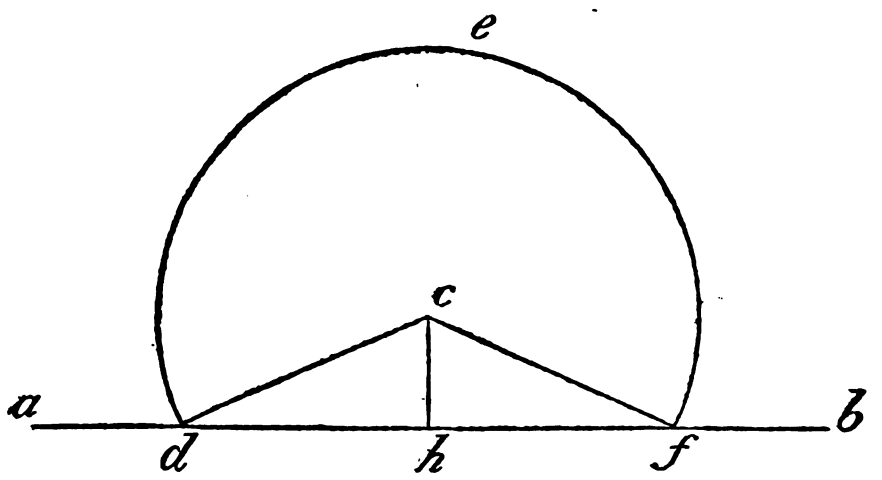
the point *f* are right. Again, becauſe *f b* is equal to *b b*, and *c b* being connected, is common, and the baſe *c f* is equal to the baſe *c b*, for they are from the centre, the angles at the point *b*, are right; for they are equal and ſucceſſive. Becauſe, therefore, each of the angles *c f b*, *c b f*, is right, *c f* is equal to *c b*. But *c f* is equal to *c e*, for they are from the centre, and hence *c b* is not unequal to *c e*, which is impoſſible.

It now remains that we run over the third objection. For the circle which is deſcribed (ſay they) will cut the right line in the points *a*, *b*, and in the points *f*, *b*. We therefore biſecting the right line *a b*



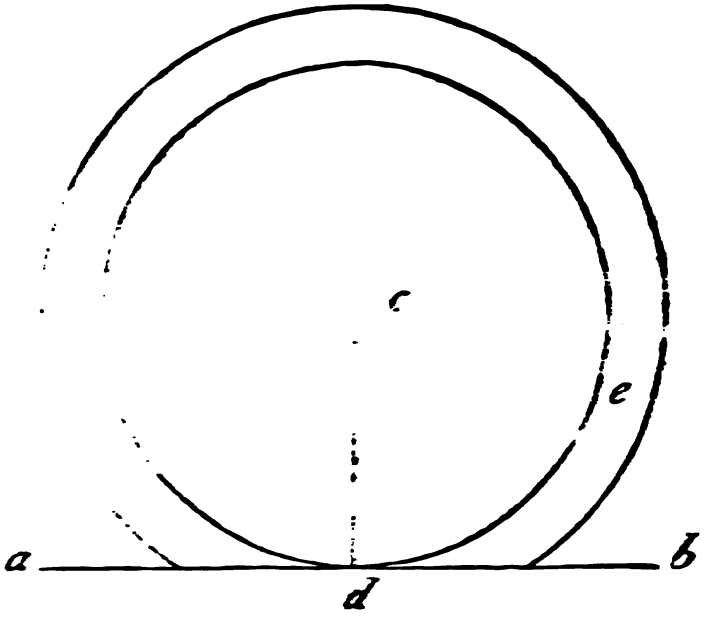
in the point *k*, and connecting the lines *c a*, *c f*, *c k*, *c b*, can ſhew that this is impoſſible. For ſince *k a*, *k b*, are equal, and *c k* is common, and the baſes *c a*, *c b*, are equal, hence the angles at the points *a* and *b* are equal, and thoſe at the point *k* right. But each of the lines is equal to *c f*; and hence, the angles at the point *f*, are right; for they are equal, becauſe ſucceſſive. Therefore, *c f* is equal to *c k*: for they ſubtend right angles. But *c f* is equal to *c d*, ſince they are from the centre; and hence, *c d* is equal to *c k*, which is impoſſible. Hence then, it is impoſſible that the circle which is deſcribed ſhould cut the line *a b* in one, two, or in more points than *a b*. And ſuch are the objections againſt the preſent problem.

But there are alſo caſes of the conſtruction of this problem, which are to be diſtinguiſhed from the objections. For caſe is not the ſame with objection; ſince the former ſhews the ſame thing differently, but the latter leads the objection to an inconvenience. But other expoſitors, not diſtinguiſhing theſe from one another, bring all into the ſame, ſo that it is uncertain, whether they enunciate to us in their writings, caſes, or objections. We therefore diſtinguiſhing theſe, having enumerated the objections, ſhall now deſcribe the caſes of the problem. Let there be then an infinite right line *a b*, and a given



point *c*. Now it may be ſaid that there is no farther place in the other part of the perpendicular right line, but in that only where the point *c* lies. Taking, therefore, in the right line *a b* a point *d*, with the centre *c*, and interval *c d*, let us deſcribe the circumference of a circle *d e f*, and biſecting *d f* in *h*, let us connect the lines *c d*, *c h*, *c f*. Becauſe, therefore, *d h* is equal to *h f*, but *c h* is common, and *c d* is equal to *c f*, (for they are from the centre,) hence, the ſucceſſive angles at the point *h*, are equal. They are, therefore, right. And hence, *c h* is a perpendicular to *d f*. But if any one ſhould alſo ſay that the deſcribed circle does not cut the right line *a b*, but touch it as the circle *d e*, by taking the point *e* externally, and uſing the centre *c*, and

interval



interval [illegible], as in the preceding, we shall obtain the object of our enquiry. And thus much we have said concerning the cases of the problem, for the sake of exercising the attention of the reader.

But if we are desirous of adding contemplation likewise to these two problems, a right line erected at right angles, seems to imitate a life tending on high from inferior concerns, ascending purely, and without contamination, and abiding inflexibly with regard to natures subordinate to its own. But a perpendicular is the image of a life perpendicularly descending, and the least of all replete with generative infinity. For a right angle is the symbol of an energy inflexible, and restrained in the comprehension of equality, bound, and finite. From whence, indeed, Timæus also calls the *other circle* in the divine soul, possessing the reasons of sensible natures, right; for in our souls it is bent with flexions of every kind, and suffers various contortions and perturbations from the unceasing whirls of generation: but among *wholes* it resides immaculate, uncontaminated, firm, and indeclinable, prior to sensible forms. But if likewise an infinite right line is the symbol of the whole of generation, which is moved infinitely and indeterminately, and besides this, of matter itself, which is deprived

of bound and form: and if a point placed externally bears an image of an eſſence impartible, and ſeparate from material natures, doubtleſs the deduced perpendicular will imitate that life which proceeds into generation with an undefiled progreſs from unity, and an impartible eſſence. But if a perpendicular cannot be ſhewn without circles, this alſo will be the ſymbol of an inflexibility inherent in life, through the medium of intellect. For life, indeed, ſince it ſubſiſts by itſelf as motion, is indeterminate: but it becomes terminated, and is filled with a pure and immaculate power, by participating and adhering to the circulations of intellect.

PROPOSITION XIII. THEOREM VI.

When a right line ſtanding upon a right line forms angles, it either forms two right, or angles equal to two right.

Euclid again paſſes on to theorems, conſequent to things exhibited by problems. For after a perpendicular had been drawn to a right line, and a right line erected at right angles, it remained, to enquire if it ſhould not be a perpendicular, what angles it would form, and how it would be affected to the line upon which it ſtands. This then he proves univerſally, *that every right line ſtanding upon a certain line, and forming angles, either forms two right, if its ſtate be indeclinable, firm, and never verging: or angles equal to two right, if it declines in one part, but is more diſtant from its ſubject line, in the other part.* For as much as it takes away from a right angle by its declination in one part, ſo much it adds by its diſtance in the other. But it is requiſite to take notice, that in this propoſition alſo, the Geometrician employs diligent care. For he does not ſimply ſay that every right line, ſtanding upon a right line, forms either two right angles, or angles equal to two right, but he adds, *if it forms angles.* For what if ſtanding on the extremity of a right line, it ſhould form one angle, will it happen that this may be equal to two right? This certainly is impoſſible. Since every rectilineal angle is leſs than two right, as alſo every ſolid angle is leſs than four right. Hence, though you

you ſhou'd receive that which appears to be the greateſt of all obtuſe angles, this alſo muſt will increaſe, as that which does not yet receive the meaſure of two right angles. It is requiſite, therefore, that the right line ſhould ſtand in ſuch a manner, that it may form angles. And theſe obſervations regard the productive diligence of ſcience.

But what does he mean by adding the particle, *either two right, or equal to two right?* For when he has conſtituted two right, he forms angles equal to two right; ſince right angles are equal to each other. Shall we ſay that one of the equal angles is alſo common, but that the other of the equals is only proper? But we are accuſtomed when both *proper* and *common* is verified, to expreſs every particular from that which is proper, but when we cannot effect this, we are content with that which is common for the explication of the ſubject concerns. This then, the equality of the ſucceſſive angles, is common to right angles, but is not predicated of theſe alone: but this, that they are right, is peculiar to their equality. Hence, the aſſertion, *equal to two right*, alone ſignifies the inequality of the angles. For in theſe it is alone verified, but by no means in ſuch as are equal. And this alſo the inſtitutor of the Elements divides in oppoſition to two right. For ſince it is predicated by itſelf, it has a power of ſignifying that the angles on each ſide are unequal. But through theſe obſervations we may alſo perceive, that equality is the meaſure and bound of inequality. For though the increaſe and decreaſe of an obtuſe and acute angle is indeterminate and infinite, yet it is ſaid to receive limitation, and bound from a right angle; and each of them, indeed, ſeparately, recedes from a ſimilitude to the right; but both, according to one harmonizing union, are reduced to its bound. But as they can by no means perfectly equal the ſimplicity of a right angle, they receive an equality to it when doubled, the duad being the exemplar of their infinity, as of itſelf endued with an infinite nature. And this ſeems to procure a manifeſt image of the progreſſion of primary cauſes; and of their abiding according to one boundary, in a manner perpetually the ſame, about the infinity of generation. For how could otherwiſe generation, which participates of the more and the leſs, and is carried

in indefinite whirls, agree with intelligibles, and be equalled with them in a certain reſpect, unleſs by participating their natures, whilſt they advance with prolific powers, and only multiply themſelves in their progreſſions? For things which abide in their own ſimplicity and impartibility, are entirely ſeparated from generable natures. And thus much is aſſumed from the preſent theorem, and applied to the knowledge of univerſals.

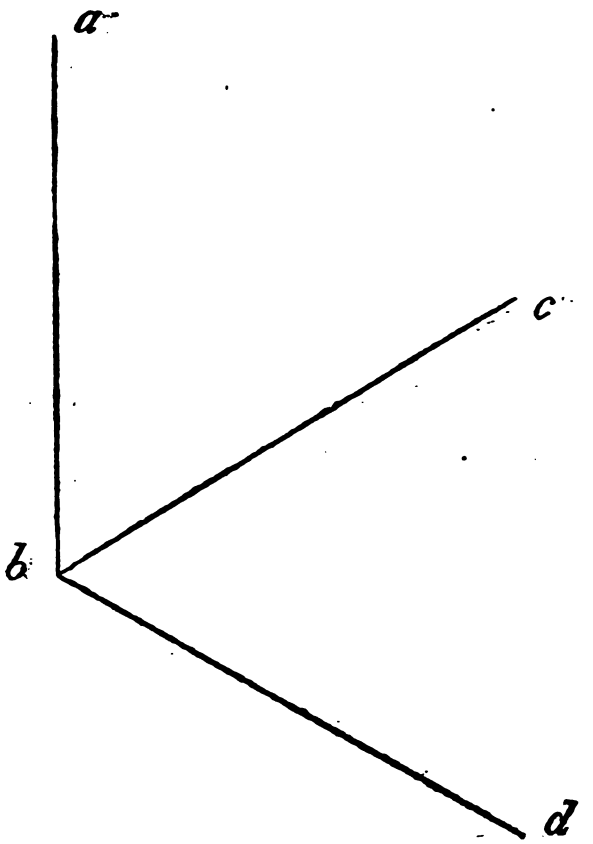
PROPOSITION XIV. THEOREM VI.

If to any right line, and at a point in it, two right lines being placed in a conſequent order, and not towards the ſame parts, make the ſucceſſive angles equal to two right, thoſe right lines ſhall be in a direct poſition to each other.

The preſent theorem is the converſe of the foregoing: for ſuch as are converſe are always conſequent to preceding theorems. Since, therefore, the former had conſtituted a right line upon a right line, and had ſhewn that it made the ſucceſſive angles either two right, or equal to two right; in the preſent theorem he receives the equality of the angles to two right, which are formed at ſome right line, but he ſhews that it is one right line which produces their equality. Hence, that which was a *datum* in the former, is in the preſent theorem an object of enquiry; and is ſhewn by a deduction to an impoſſibility. For after this manner the converſe of theorems ought to be exhibited; but in problems they ſhould receive principal demonſtrations. But in this theorem we may alſo perceive the greateſt and moſt admirable diligence of this propoſition producing ſcience. For in the firſt place, after he had ſaid, *if to any right line*, he adds, *and at a point in it*; for what if the two extremes of the right line exiſting, one of the right lines ſhould be drawn from the one extreme, but the other from the remaining one, and ſhould form angles at the right line, equal to two right, would they on this account have a direct poſition? And how

can

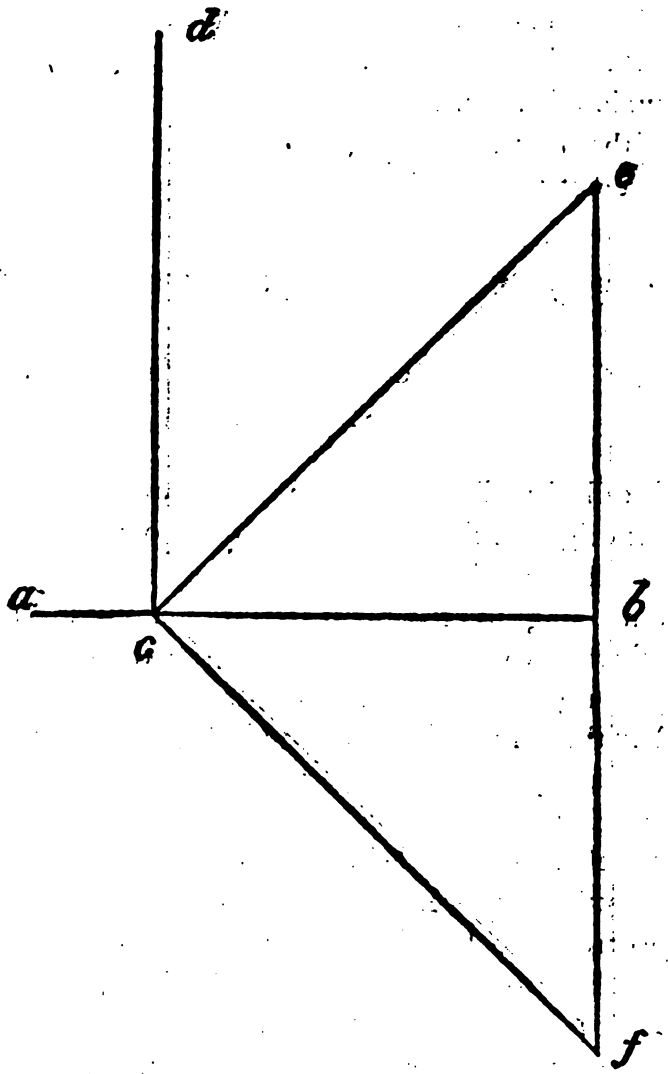
can this take place in lines drawn from different points of the right line? It is on this account alſo, that he adds, *and at a point in it*, ſince he is willing that both ſhould be in the ſame point. But in the ſecond place, becauſe it is poſſible that the right lines which are drawn, may be at the ſame point, and not conſequent (ſince we may receive infinite right lines placed at the ſame point) he adds the particle, *in a conſequent order*. And in the third place, becauſe the word *conſequent* may be conſidered as well at the ſame parts as on both ſides: but becauſe it is impoſſible that lines which are conſequent at the ſame parts ſhould be mutually in a direct poſition, this indeed he explains, but affords us an opportunity of conſidering that conſequent right lines are to be received in poſition on both ſides; ſince theſe alſo can be ſhewn to be in a right line. Let there be placed at the right line *a b*, and at a point in it *b*, towards the ſame parts, two right lines *b c*, *b d*,



theſe,

theſe, therefore, ſhall be conſequent to each other. For no other right line is ſituated between them. But thoſe things are *ſucceſſive*, between which there is nothing ſimilar. Thus we call the columns *conſequent*, between which there is no other column: for though the air intervenes, yet nothing of the ſame kind is ſituated in the middle. Becauſe, therefore, they lie towards the ſame parts, they are by no means in a direct poſition, although they form two angles equal to two right; I mean the angles at the point *b*. For nothing hinders but that the angle *a b d*, may contain in itſelf, one right, and a third part of a right angle: and that the angle *a b c*, may be two thirds of a right angle. And thus much concerning the propoſition.

But one petition is employed in the conſtruction, viz. the ſecond, which begs *to produce a right line ſtraight forwards*, as in the demonſtration he uſes the preceding theorem, and two axioms; i. e. the one which ſays, *things equal to the ſame, are equal to one another*; and alſo the one which affirms, *that if from equal things equals are taken away, the remainders ſhall be equal.* But at the collection of the impoſſibility, he employs the axiom, which ſays, *the whole is greater than its part*. For it is equal one common angle being taken away, which is impoſſible. But that it is poſſible to the ſame right line, and at a point in it, two right lines in a conſequent poſition, and yet, towards the ſame parts, may form angles belonging to that one right line, equal to two right, we may ſhew with Porphyry, as follows. Let there be a certain right line *a b*, and any point in it *c*, and let *c d* be raiſed at right angles to *a b*, and let the angle *d c b* be biſected, by the line *c e*. Then from the point *e*, to the line *a b*, let there be drawn the perpendicular *e b*, and let *e b* be produced, and place *f b* equal to *e b*, and connect *c f*. Becauſe, therefore, *e b* is equal to *b f*, but *b c* is commmon, and they contain equal angles (for they are right), hence, the baſe *e c*, is equal to the baſe *c f*. All, therefore, are equal to all. Hence, the angle *e c b*, is equal to the angle *f c b*. But the angle *e c b* is the half of a right angle: becauſe the right angle *d c b* was biſected by the line *e c*. Hence, alſo the angle *f c b*, is the



half of one right. The angle, therefore, *d c f*, is equal to one right, and the half of a right angle. But the angle *d c e*, alſo, is the half of a right angle. Hence to the right line *c d*, and to a point in it *c*, two right lines are conſequently placed towards the ſame parts, viz. *c e* and *c f*, forming angles equal to two right, *c e* cauſing the half of a right angle, and *c f* one and a half. Leſt, therefore, we ſhould enquire after things impoſſible to be effected, viz. how the right lines *c e*, *c f*, forming angles at the right line *d c*, equal to two right, can

be

be in a direct position to one another, the Geometrician adds the particle *not towards the same parts*. It is requisite, therefore, that the right lines which form angles equal to two right, should be placed on both sides of the right line, being raised, indeed, from one point, but drawn to different parts of the right line.

PROPOSITION XV. THEOREM VIII.

If two right lines cut one another, they will form the angles at the vertex equal.

We must call *successive* angles different from such as are *vertical* For these last originate from the section of two right lines: but the former from the mere dissection of the one by the other. Thus, if a right line remaining ~~itself without section~~, but ~~cutting~~ another in its extremity, forms two angles, we denominate these *successive* angles. But if the two right lines mutually cut each other, they form *vertical* angles. And they are so called, because they have their vertices conjoined in the same point. But their vertices are the points, at which the planes, while they are contracted, form angles. This, therefore, is what the present theorem evinces, that when two right lines mutually cut each other, the vertical angles are equal. And it was first invented (according to Eudemus) by Thales: but was thought worthy of a demonstration producing science by the institutor of the Elements. But it is not exhibited from all the particulars requisite to a perfect proposition. For construction is wanting in the present theorem: but demonstration, which must be necessarily inherent, depends on the thirteenth theorem. But he uses two axioms, one of which is, *that things equal to the same, are equal among themselves:* and the other, *if from equal things equals are taken away, the remainders will be equal.* The theorem, indeed, of Euclid, is manifest, but another such is converted to the present theorem. *If to any right line, and at a point in it, two right lines, not assumed towards the same parts, make the verti-*

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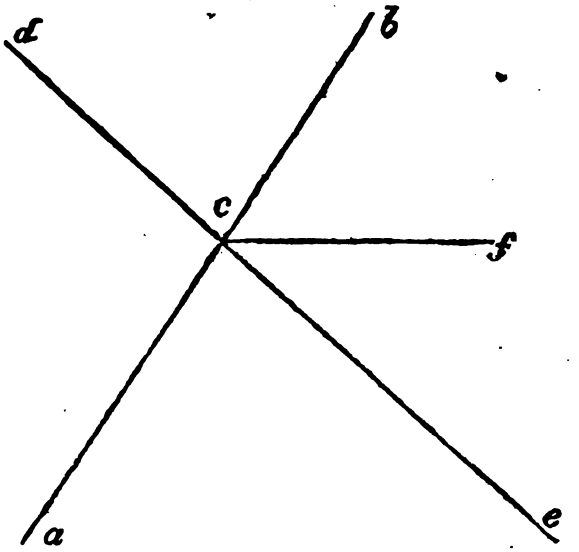
cal angles equal, thoſe right lines ſhall be in a direct poſition to each other. For let there be a certain right line *a b*, and any point in it *c*,



and at the point *c*, let two right lines *c d*, *c e*, not towards the ſame parts be aſſumed, forming equal angles *a c d*, *b c e*. I ſay that *c d*, *c e*, are in a right line. For ſince the right line *c d*, inſiſts upon the right line *a b*, it forms angles equal to two right, i. e. *d c a*, *d c b*. But the angle *d c a*, is equal to the angle *b c e*. Therefore, the angles *d c b*, *b c e*, are equal to two right. Becauſe, therefore, to a certain right line *b c*, and at a point in it *c*, two conſequent right lines *c d*, *c e*, not placed towards the ſame parts, form the ſucceſſive angles equal to two right, thoſe right lines *c d*, *c e*, are in a direct poſition to each other. The converſe, therefore, to the preſent theorem, is exhibited. But the Geometrician ſeems to have neglected this, becauſe it is eaſy to evince its truth, by the ſame method of deduction to an impoſſibility as we employed in exhibiting the fourteenth propoſition. For the ſame things being ſuppoſed, I ſay that the right line *c d*, is in a direct poſition to *c e*. For if it be not, let *c f* be taken in a right line with *e d*. Becauſe, therefore, two right lines *a b*, *d f*, interſect each other, they will form the angles at the vertex equal. Hence, the angles *a c d*, *b c f*, are equal. But *a c d*, *b c e*, were alſo equal.

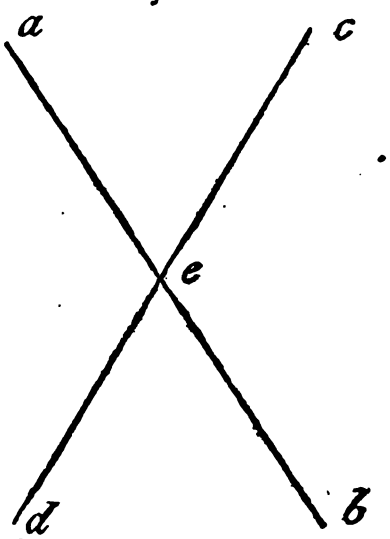
The angle, therefore, *b c e*, is equal to the angle *b c f*, the greater to the leſs, which is impoſſible. Hence, no other right line, beſides *c d*, is in a direct poſition to *c e*. The right lines, therefore, *c d*, *c e*, are in a direct poſition to each other, the angles at the vertex being ſuppoſed equal. Since then, there is the ſame demonſtration which was preaſſumed in the fourteenth theorem, would it not have been ſuperfluous to have produced this converſion? But for the ſake of exerciſe, we have proved it as well by a deduction to an impoſſible, as by an oſtenſive method. However, this fifteenth theorem ſeems to reſt upon the ſimilitude of the parts of right lines, and their ſituation in their extremities. Becauſe lines with theſe conditions, and mutually cutting each other, muſt neceſſarily poſſeſs ſimilar inclinations on both ſides to each other. Since circumferences, and univerſally non-right lines cutting one another, do not neceſſarily form the vertical angles equal, but ſometimes equal, and ſometimes unequal. For if two equal circles cut each other through the centres, or even not through the centres, they will form the lunular angles at the vertex equal: but not likewiſe the remaining angles, viz. thoſe on both ſides concave, and on both ſides convex, but the one will be greater than the other. But in right lines, the ſituation in the extremities, cauſes the diſtance of one ſegment, to be equal to the diſtance of another.

COROLLARY.

From hence it is manifeſt that if two right lines cut each other, they will make four angles equal to four right.

Corollary is one of the geometrical appellations, but it has a twofold ſignification. For they denominate corollaries, whatever theorems are proved together with the demonſtrations of others, becoming as it were the unexpected gain and emolument of the inveſtigator: and likewiſe, whatever is the object of enquiry, but is indigent of invention, and is neither inveſtigated for the ſake of generation alone, nor of ſimple contemplation. For that the angles at the baſes of iſoſ-

celes triangles are equal, it is requiſite to contemplate, and the knowledge of things in exiſtence is of this kind. But to biſect an angle, or conſtitute a triangle, to cut off, or place an equal right line, all theſe demand that ſomething may be performed. And again, to find the centre of a given circle, or two commenſurable magnitudes being given to find their greateſt common meaſure, with every thing of this kind, are, after a manner, ſituated between problems and theorems. For neither is the origin of *objects of enquiry* inherent in theſe, nor contemplation alone, but invention, Since it is requiſite to place the object of enquiry conſpicuouſly and before our eyes. Such then are whatever corollaries Euclid wrote; for he conſtructed a book of corollaries. But we muſt now omit to ſpeak of corollaries of this kind. However, ſuch as occur in the elementary inſtitution, appear at the ſame time with the demonſtrations of other things, but they themſelves are not principally inveſtigated, as is evident in that which is propoſed at preſent. For the deſign of the propoſition is to enquire whether if two right lines mutually cutting each other, the angles at the vertex are equal. But whilſt this is evinced, it is at the ſame time demonſtrated, that the four angles which are formed, are equal to four right. For when we ſay let there be two right lines, *a b*, *c d*,



cutting each other in the point *e*: becauſe *a e* ſtands upon *c d*, it makes the ſucceſſive angles equal to two right. And again, becauſe *b e* ſtands upon *c d*, it alſo makes the ſucceſſive angles equal to two right; then together with the object of enquiry we demonſtrate, that the angles about the point *e*, are equal to four right. A corollary, therefore, is a theorem, unexpectedly emerging from the demonſtration of another problem, or theorem. For we ſeem to fall upon corollaries, as it were, by a certain chance; and they offer themſelves to our inſpection, without being propoſed, or inveſtigated by us. Hence, we aſſimilate theſe alſo to gains. And perhaps thoſe ſkilled in mathematical concerns, have impoſed on them this appellation, ſhewing the vulgar, who rejoice in apparent gain, that theſe are the true gifts of divinity, and true gains, and not the objects of their ſordid eſtimation. For this indeed produces that faculty reſident in our nature, and adds the prolific power of ſcience, to principal enquiries, manifeſting the copious riches of theorems. And ſuch is the property of corollaries.

But they are to be divided in the firſt place, according to ſciences. For of corollaries, ſome are geometrical, but others arithmetical. Thus the preſent corollary is geometrical: but that which is added at the end of the ſecond theorem of the ſeventh book of the arithmetical elements, is arithmetical. But afterwards they muſt be divided according to the principal objects of enquiry. For ſome things are conſequent to problems, but others to theorems. Thus, the preſent is conſequent to a theorem: but that which is placed in the ſecond of the ſeventh book, is conſequent to a problem. But in the third place, they muſt be divided according to their oſtenſions. For ſome are exhibited, together with oſtenſive methods, but others together with deductions to an impoſſible. Thus the preſent is ſhewn by a direct oſtenſion: but that which is at the ſame time exhibited in the firſt of the third book, appears, together with a deduction to an impoſſible. But corollaries may alſo be divided in many other modes, but theſe may ſuffice our preſent purpoſe. The preſent corollary, however, teaching

teaching us that the place about one point is diſtributed into angles equal to four right, is ſubſervient to that admirable theorem, which ſhews that the following three multangles about one point, can alone fill place, viz. the equilateral triangle, the quadrangle, and an equilateral, and equiangular ſexangle. But the equilateral triangle muſt be ſix times aſſumed; ſince ſix two-thirds, form four right angles. But the ſexangle muſt be three times formed; for every ſexangular angle is equal to one right, and a third part of a right. And a quadrangle muſt be four times aſſumed: for every quadrangular angle is right. Hence, ſix equilateral triangles conjoined according to their angles, fill four right angles, as alſo three ſexangles, and four quadrangles. But all other multangles, however compoſed, according to angles, are either deficient from four right, or exceed four right angles *; while theſe alone, according to the aforeſaid numbers, are equal to four right. And this theorem is Pythagoric. But by the preſent corollary, if even more than two right lines ſhould cut each other in one point, as for inſtance, three or four, or any other number, all the angles which they form, may be ſhewn to be equal to four right. For they will vindicate to themſelves the place of four right angles. But it is manifeſt that the angles always become double to the number of right lines. And thus two right lines interſecting each other, there will be four angles equal to four right: but from the interſection of three lines, there will be ſix angles; and from four, eight, and ſo on, in infinitum. For the multitude of the right lines is always doubled: but the angles increaſe according to multitude, and are diminiſhed according to magnitude, becauſe it is the ſame four right angles, which is perpetually divided.

* That no other figure beſides theſe can fill place, will be evident, if its angle, when found, is multiplied by any number: for, as Tacquet well obſerves, it will always either exceed, or be deficient from four right angles. For a more particular demonſtration of this admirable theorem, ſee Tacquet Elementa Geometriæ, p. 88.

PROPO-

PROPOSITION XVI. THEOREM IX.

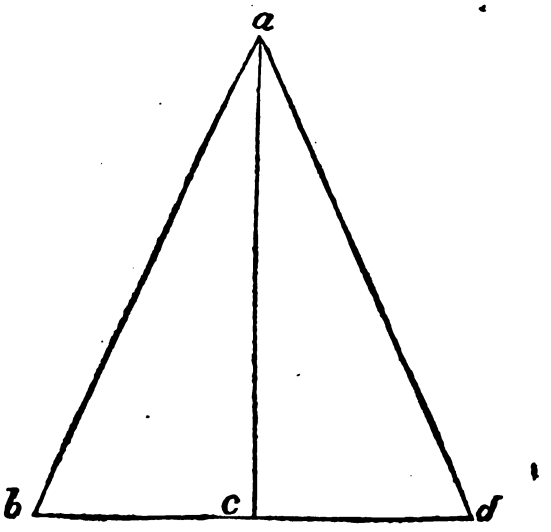
In every triangle having one ſide produced, the external angle is greater than either of the internal and oppoſite angles.

Thoſe who enunciated this propoſition, and at the ſame time omitted the particle, *having one ſide produced*, perhaps afforded an occaſion of objection to many others, as well as to Philip, (according to the narration of the mechaniſt Heron.) But ſuch as were deſirous of entirely removing this calumny, enunciated the theorem, with the propoſed addition, correſponding with the general mannner of the geometrician. For in the fifth theorem, being deſirous to ſhew, that the angles under the baſe of an iſoſceles triangle are equal, he adds, that when the equal right lines are produced, the angles under the baſe are equal. Hence we infer, that though this propoſition might be defective and imperfect in various copies, yet it was perfect and written entire, by the inſtitutor of the Elements. What then does the propoſition aſſert? *That in every triangle, if you produce one of its ſides, you will find the angle conſtituted external to the triangle, greater than either of the internal and oppoſite angles.* For a little after, this angle will be ſhewn equal to both, but it is proved to be greater than either in the preſent; and he neceſſarily compares it with the oppoſite angles, and not with the *ſucceſſive* angle. For to this laſt it may be both equal and leſs: but it is greater than either of the former. Thus, if this triangle ſhould be right angled, and you conceive one of the ſides comprehending the right angle to be produced, the external will be equal to the ſucceſſive angle. But if it ſhould happen to be obtuſe-angled, the internal angle may be greater than the external; and it is on this account that he does not compare the external with the ſucceſſive angle, but with the oppoſite angles. For of the angles within a triangle, the ſucceſſive angle borders on the external, but the two others are oppoſite. Hence, the external angle is greater than

either

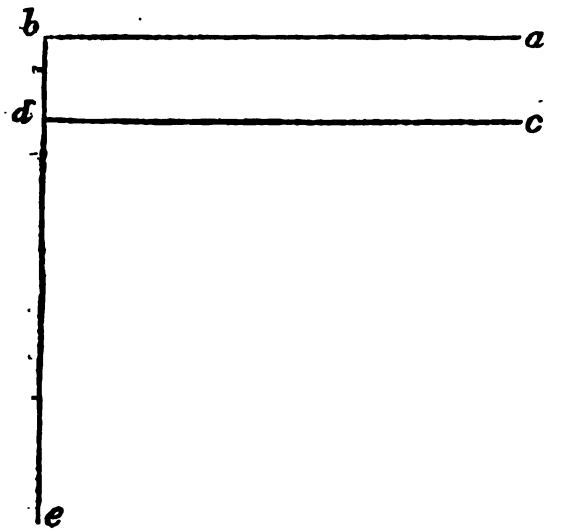
either of the ſucceſſive, but may not exceed the ſucceſſive angle to which it is proximate. But ſome conjoining theſe two theorems, I mean the preſent, and the following, enunciate the propoſition thus. *In every triangle having one ſide produced, the external angle is greater than either of the internal and oppoſite angles; and any two of the internal angles, are leſs than two right.* But there is occaſion for the connection of theſe theorems, becauſe the geometrician himſelf, a little after, enunciates the propoſition after this manner, in equal angles, for he ſays: *In any triangle having one of its ſides produced, the external angle is equal to the two interior, and oppoſite angles; and the three internal angles of a triangle, are equal to two right.* Hence, they think it proper in the preſent ſimilar caſe, to connect the objects of inveſtigation, and to make the propoſition a compoſite. But if the datum be enunciated with this addition, it alſo will be a compoſite, (ſince it is requiſite to underſtand two things, viz. the ſubject triangle, and one ſide produced:) and if the datum be given without this, it will be a *compoſite* in capacity, but *ſimple* in energy; for this muſt be received at the ſame time as a datum; ſince while we ſuppoſe an external angle, we muſt pre-ſuppoſe the ſide as produced.

But we may aſſume from the preſent theorem, that it is impoſſible from the ſame point, for three equal right lines to fall on the ſame right line. Thus let there be drawn from one point *a*, three equal



right

right lines, *a b*, *a c*, *a d*, to the right line *b d*. Becauſe, therefore, *a b* is equal to *a c*, the angles at the baſe are equal. Hence, the angle *a b c*, is equal to the angle *a c b*. Again, becauſe *a b* is equal to *a d*, the angle *a b d*, is equal to the angle *a d b*. But the angle *a b c*, was equal to the angle *a c b*. Hence, the angle *a c b*, is equal to the angle *a d b*, the external, to the internal and oppoſite, which is impoſſible. From the ſame point therefore, to the ſame right line, three equal right lines cannot be drawn. But by the preſent theorem, we can alſo demonſtrate, that if a right line falling on two right lines, makes the external angle equal to the internal and oppoſite, thoſe right lines will by no means make a triangle, nor coincide, becauſe the ſame thing would be both greater and equal, which is impoſſible. Thus for example, let *a b*, *c d*, be right lines, and let the right line



e b falling on them make the equal angles *a b d*, *c d e*, the right lines *a b*, *c d*, will not coincide. For if they coincide, the equal angles remaining, the angle *c d e*, will be equal to the angle *a b d*. And ſince it is external, it will be greater than the internal and oppoſite angle. Hence, it is neceſſary, if they coincide, that the angles remain no longer equal, but that the angle at the point *d*, be augmented. For whether *a b* remaining immoveable, we conceive that

c d,

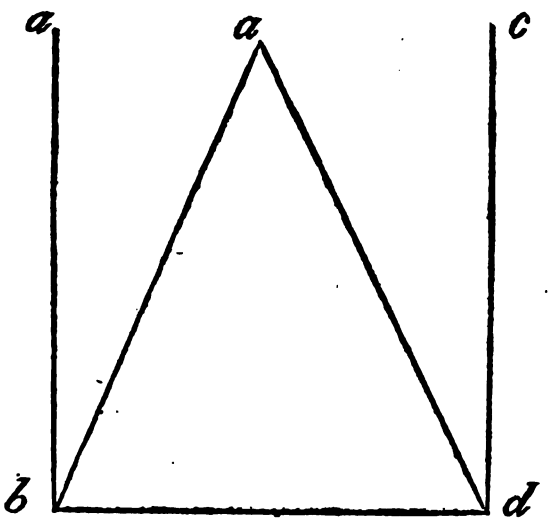
c d is moved towards it, ſo as to coincide in the point *c*, we ſhall produce a greater diſtance in the angle *c d e*; ſince *c d* approaches to *a b*, in the ſame proportion as it recedes from *d e*. Or whether *c d*, abiding, we conceive that *a b* is moved towards it, in a ſimilar manner, we ſhall by this means diminiſh the angle *a b d*; for it is at the ſame time carried towards *c d*, and to *b d*. Or whether we conceive both of them tending to each other, we ſhall find that *a b* by tending to *c d*, contracts the angle *a b e*; and that *c d*, by receding from *d e*, on account of the motion to the line *a b*, increaſes the angle *c d e*. Hence, it is neceſſary, if it be a triangle, and if the right lines *a b*, *c d*, coincide, that the external angle muſt be alſo greater than the internal and oppoſite angle. For either the internal angle remaining, the external is increaſed, or the external abiding, the internal is diminiſhed, or the internal is contracted, and the external is more dilated. But the cauſe of theſe conſequences is the motion of the right lines, the one tending to thoſe parts, where it diminiſhes the internal angle, but the other to the parts where it increaſes the external. And from this the reader ſhould conſider, how the origin of things produces the true cauſes of enquiries, which we have previouſly ſurveyed.

PROPOSITION XVII. THEOREM X.

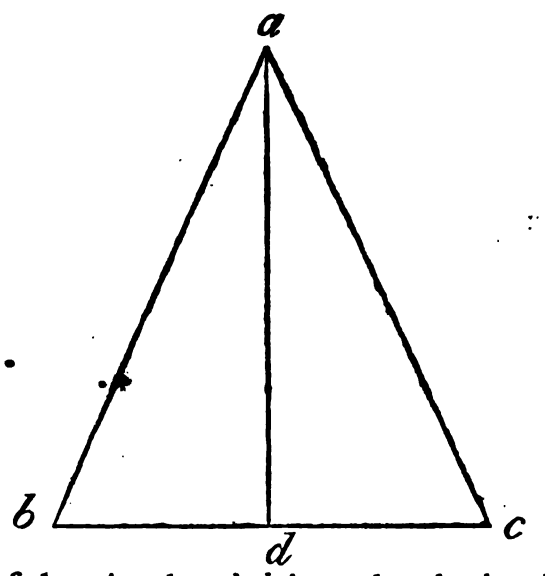
The two angles of every triangle, taken all poſſible ways, are leſs than two right.

In the preſent theorem he ſhews indeterminately, that any two angles of a triangle, are leſs than two right, but in the following theorems he determines how much they are leſs, and that they are deficient by the remaining angle of the triangle: for its three angles are equal to two right; and on this account the two remaining angles are leſs than two right. And, indeed, the demonſtration of the elementary inſtitutor proceeds in a manifeſt order; for it uſes the preceding theorem. But it is neceſſary, as in the laſt propoſition, by regarding the origin of triangles, to find the cauſe of the preſent ſymptom. Let

then the right lines *a b*, *c d*, be at right angles to *b d*. If theſe lines then



are to form a triangle, it is requiſite they ſhould incline to each other. But their inclination diminiſhes the internal angles, on which account they become leſs than two right: for they were right before their inclination. In like manner, if we conceive right lines ſtanding at right angles, on the ſide *a b*, the ſame conſequences will enſue reſpecting the inclination of the right lines; and the angles at the points *a*, *b*, will be leſs than two right; and ſo of the other ſide. This then is the cauſe of the propoſition, and not the external angle being greater than either of the internal, and oppoſite angles: ſince it is not neceſſary that the ſide ſhould be produced, nor that any angle ſhould be conſtituted external to the triangle; but it is neceſſary that any two of the internal angles ſhould be leſs than two right. Hence, it is neceſſary, as I have ſaid, that the cauſe of this theorem ſhould be the inclination of the right lines diminiſhing the angles at the baſe. But as the inſtitutor of the elements exhibits the object of enquiry, by the external angle, we may accompliſh this, without producing any one of the ſides. Thus let there be a triangle *a b c*, and let there be taken in the ſide *b c*, any point *d*, and let *a d* be connected. Becauſe, therefore



fore, one ſide of the triangle *a b d*, is produced, viz. *b d*, the external angle *a d c*, is greater than the internal *a b d*. Again, becauſe one ſide of the triangle *a d c* is produced, viz. *c d*, the external angle *a d b*, is greater than the internal *a c d*. But the angles about the right line *a d*, are equal to two right, by the thirteenth of this. Hence, the angles *a b c*, *a c b*, are leſs than two right. In like manner, we may ſhew, that the angles *b a c*, and *b c a*, are leſs than two right, by taking a point in the ſide *a c*, and by connecting the point *b* with the aſſumed point. And again, we may affirm, that the angles *c a b*, *a b c*, are leſs than two right, by taking a point in the ſide *a b*, and by connecting a right line, from the point *c*, and the received point. And thus the thing propoſed, is exhibited by the ſame theorem, without producing any ſide of the triangle. Hence, it is poſſible, that by this, the theorem may be proved, which aſſerts, *that from the ſame point, two perpendiculars cannot be drawn, to one right line.* For let there be drawn, if poſſible, from the point *a*, two perpendiculars *a b*, *a c*, to the right line *b c*. Then the angles *a b c*, *a c b*, are right. But becauſe *a b c* is a triangle, two of its angles are leſs than two right. The angles, therefore, *a b c*, *a c b*, are leſs than two right. But they are alſo equal to two right, becauſe they are perpendiculars, which is impoſſible. Hence, from the ſame point, to the ſame right line, two perpendiculars cannot be drawn.

PROPOSITION XVIII. THEOREM XI.

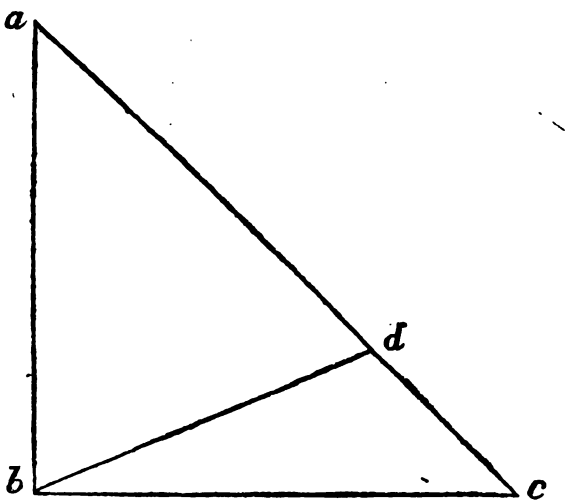
The greater ſide of every triangle, ſubtends the greater angle.

That the equality of the ſides in every triangle, forms the equality of the angles which they ſubtend, and that in like manner the equality of the angles ſhews the equality of their ſubtending ſides, we learn from the fifth and ſixth theorems. But that the equality of thoſe angles, which are ſubtended by the ſides, follows the inequality of the ſides, and the contrary we now learn by the preſent eighteenth and nineteenth theorems. For the one ſhews that the greater angle is contained under the greater ſide, but the other, that the greater ſide ſubtends the greater angle ; becauſe theſe are mutually converted, but the ſame ſymptoms are contemplated in things contrary, as in the fifth and ſixth theorems. But it is manifeſt, that we proportionally aſſume the greater and leſs ſide, in ſcalene triangles, that we diſtinguiſh the greateſt, middle, and leaſt, and the angles in a ſimilar manner: but in iſoſceles triangles, the greater and leſs, ſimply aſſumed, are ſufficient ; for there is one ſide which is unequal to two, becauſe it is either greater or leſs, as theſe theorems cannot take place in equilateral triangles. And here you may obſerve, that the theorems which exhibit the equality of angles or ſides, agree with equilateral and iſoſceles triangles : but thoſe which exhibit inequality to ſuch as are Iſoſceles and ſcalene. But the cauſe of this is, becauſe of triangles, ſome are produced from equality alone, others from inequality alone, and others from the conjunction of both, which are partly conſtituted from equality, and partly through inequality. And ſome are allied to *bound*, others to *infinity*, and others are generated from the mixture of both. Hence the ternary permeates through all geometrical forms, as through lines, angles, and figures ; and among figures, through ſuch as are trilateral, quadrilateral, and all the reſt in a conſequent order. But *bound*, likewiſe, muſt be conſidered as inherent in geo-

5 metrical

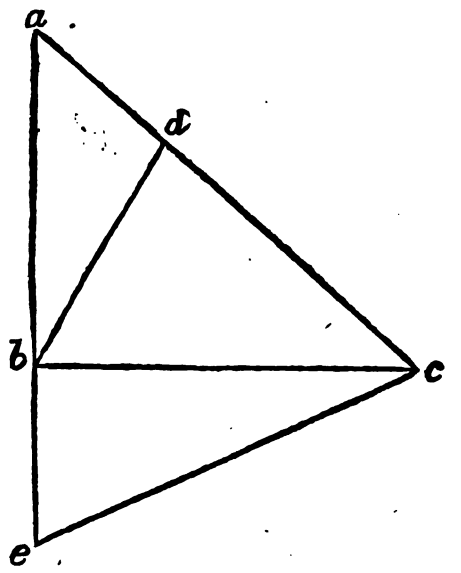
metrical forms, as well through ſimilitude, as equality; and *infinite*, both by diſſimilitude, and inequality; and that which is mixt, ſometimes from the junction of ſimilitudes, and diſſimilitudes, and ſometimes from the union of equalities, and inequalities. But the reaſon of this alſo, is becauſe geometrical forms regard both quantity and quality. And we have aſſigned theſe, becauſe, when we have determined theſe two, it will be manifeſt to us, that when the inſtitutor of the Elements ſays, *of every triangle*, he does not alſo ſpeak of the equilateral, but of that which has a greater and leſs ſide: for it is neceſſary to conſider the object of enquiry, as conſequent to the preceding datum; and that the triangle which has a greater and leſs ſide, contains a greater angle, under the greater ſide.

But becauſe the geometrician, when in the conſtruction he receives the triangle *a b c*, and the ſide *a c*, greater than the ſide *a b*, in order that he may ſhew, that the angle at the point *b* is greater than



at the point *c*, from the ſide *a c*, he cuts off a right line *a d*, equal to the ſide *a b*: on this account it may be ſaid that it is neceſſary to make the ablation at the point *c*, let us therefore exhibit the thing propoſed upon this hypotheſis, according to Porphyry, as follows. Let *d c* be equal to *a b*, and produce *a b* to the point *e*, and place *b e* equal to *d a*. The whole, therefore, *a e*, is equal to the whole *a c*.

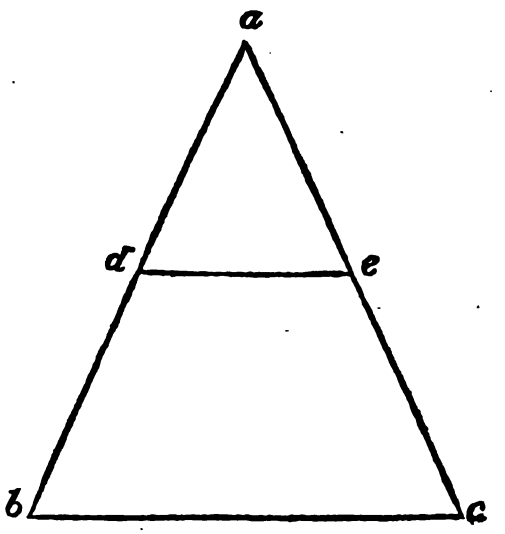
Connect



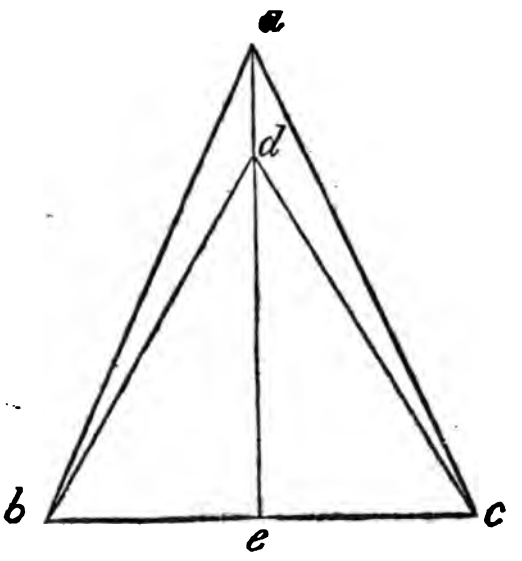
Connect *e c*. Becauſe, therefore, *a e* is equal to *a c*, the angle, alſo, *a e c*, is equal to the angle *a c e*, (by the fifth). Hence, the angle *a e c* is greater than the angle *a c b*. But the angle, alſo, *a b c* is greater than the angle *a e c*; becauſe one ſide of the triangle *c b e* is produced, viz. *b e*, and ſo the angle *a b c*, ſince it is external, is greater than the internal and oppoſite angle. Much more, therefore, is the angle *a b c*, greater than the angle *a c b*, which was to be ſhewn. And ſuch are the geometrical exhibitions of the preſent theorem.

But it is manifeſt that the cauſe of this ſymptom is the amplification, or diminution according to magnitude, of the ſide ſubtending the angle. For when it is greater, it more amplifies the angle; but when leſs, at the ſame time it diminiſhes, and gives a greater contraction to the angle. And this takes place on account of the right line being ſituated in its extremities: for through its being placed in its extrenities, it changes likewiſe the magnitudes of the angles, according to the increaſe and decreaſe which it receives. And this we affirm in one triangle, ſince it it is poſſible that the ſame angle may be ſubtended by a greater or leſs right line; and that the ſame right line may ſubtend a greater and leſs angle. For let the triangle happen to be an iſoſceles one, *a b c*, and let there be taken in the ſide *a b*,

a point



a point *a*, and let *a e* be taken equal to *a d*, and connect *d e*. The right lines therefore, *d e*, *b c*, ſubtend the angle at the point *a*, of which the one is greater, but the other leſs. And in the ſame manner infinite right lines, greater and leſs ſubtending the angle *a*. Again, let the triangle *a b c*, be iſoſceles, and let *b c* be leſs than *b a*, *a c*, and



conſtruct

conſtruct upon *b c*, an equilateral triangle *b d c*, and connect *a d*, and produce it to *e*. Becauſe, therefore, the angle *b d e*, of the triangle *a b d*, is external, it is greater than the angle *b a d*. In like manner the angle *c d e*, is greater than the angle *c a d*. The whole, therefore, *b d c*, is greater than the whole *b a c*, and the ſame right line ſubtends both, viz. the greater and the leſs angle. But it is ſhewn, that likewiſe greater and leſs right lines ſubtend the ſame angle. But in one and the ſame triangle, one right line ſubtends one angle, and the greater always the greater, and the leſs always the leſs, the cauſe of which we have contemplated.

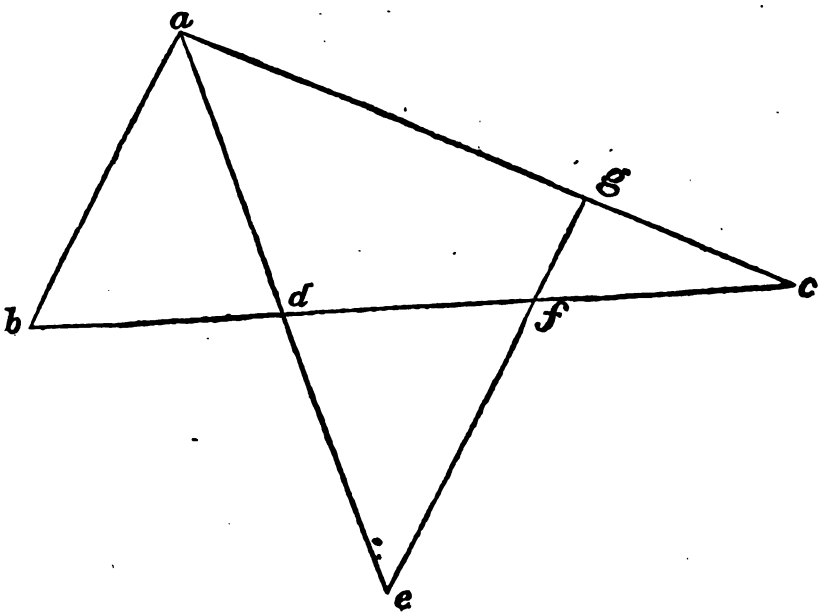
PROPOSITION XIX. THEOREM XII.

The greater ſide of every triangle ſubtends the greater angle.

This is the converſe of the preceding theorem; and the datum, as well as the object of enquiry, is ſimple in each. Add too, that what was concluſion there, is hypotheſis here: and what was hypotheſis there is concluſion in this. But the former precedes, becauſe it has the inequality of the ſides given; and this follows, becauſe it ſuppoſes unequal angles. For *ſides*, indeed, ſeem to contain right-lined figures, but the *angles* appear to be contained; and the mode of demonſtration in the former is oſtenſive, but in this it concludes the thing propoſed by a deduction to an impoſſibility. The geometrician, therefore, by diviſion, reaſons concerning that which is impoſſible: for the angles being unequal, *I ſay*, (ſays he) *that the ſides alſo ſubtending the unequal angles are unequal; and the greater ſubtends the greater given angle*. For if that which ſubtends the greater angle is not greater, it is either equal, or leſs. But if it be equal, the angles alſo which they ſubtend, are equal by the fifth. But if leſs, the angle alſo which it ſubtends, is leſs by the preceding: for it was ſhewn that the greater ſide ſubtends the greater angle, and the leſs the leſſer. But the angles have a contrary poſition; and hence, the one ſide is greater than the other.

But

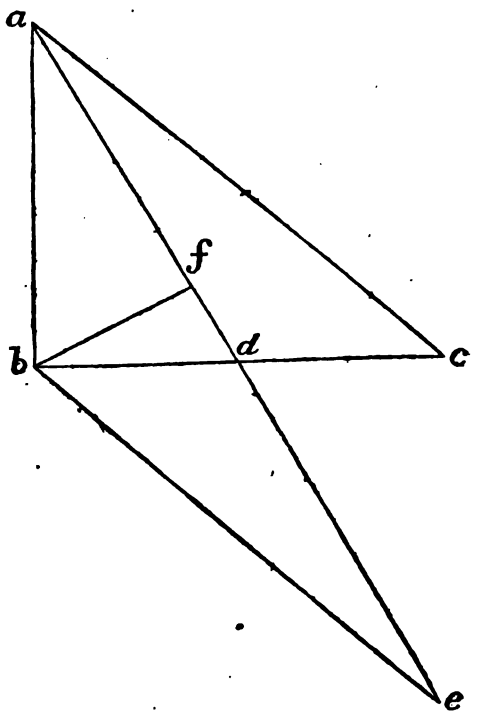
But it is poſſible that we may exhibit the thing propoſed, without this diviſion. For if the angle of a triangle be biſected, and the right line drawn to the baſe, cutting the angle, divides it into unequal parts, the ſides containing that angle will be unequal, and the greater will be that which coincides with the greater ſegment of the baſe, but the leſs that which coincides with the leſſer. Let there be a triangle *a b c*, and let the angle at *a* be biſected, by the right line *a d*, and let *a d* cut



the baſe *b c*, into unequal parts, and let *c d* be greater than *b d*. I ſay that the ſide *a c* is greater than the ſide *a b*. Produce *a d* to the point *e*, and place *d e* equal to *a d*. And becauſe *d c* is greater than *d b*, place *d f* equal to *b d*, and connect *e f*, and produce it to the point *g*. Becauſe, therefore, *a d* is equal to *d e*, and *b d* to *d f*, the two are equal to the two, and they comprehend equal angles at the vertex. Hence, the baſe *b a*, is equal to the baſe *e f*, and all, therefore, are eqnal to all. On this account alſo the angle *d e f*, is equal to the angle *d a b*. But this is not unequal to *d a g*. Hence, the ſide *a g*, is equal to the ſide *e g*, by the ſixth. The ſide, therefore, *a c*, is

greater than the ſide *e f*. But the ſide *f e*, is equal to the ſide *a b*; and hence, the ſide *a c*, is greater than the ſide *a b*, which was to be demonſtrated.

This being pre-aſſumed, we can ſhew that the greater ſide ſubtends the greater angle. Let there be a triangle *a b c*, having the angle at



the point *b*, greater than the angle at the point *c*. I ſay that the ſide *a c*, is greater than the ſide *a b*. Let *b c* be biſected in the point *d*, and connect *a d*, and draw *d e*, equal to *a d*, and connect *b e*. Becauſe, therefore, *b d*, is equal to *d c*, and *a d*, to *d e*, the two are equal to the two, and they comprehend equal angles at the vertex. Hence, the baſe *b e*, is equal to the baſe *a c*, and all are equal to all. Hence too, the angle *d b e*, is equal to the angle at the point *c*, but leſs than the angle *a b d*. The angle, therefore *a b e*, is biſected by the right line *b f*. Hence, *e f*, is greater than *f a*. Becauſe, therefore, the angle

at

at the point *b*, of the triangle *a b e*, is biſected by the right line *b f*, and *e f* is greater than *f a*, it follows from what has been previouſly ſhewn, that the ſide *b e*, is greater than the ſide *b a*. But *b e* has been ſhewn to be equal to *a c*. The ſide, therefore, *a c*, is greater than the ſide *a b*; and the object of enquiry is exhibited. And it is manifeſt that the inſtitutor of the Elements, avoiding a variety of demonſtration, refrains from this mode of demonſtrating, and employs a method of proof, which leads from diviſion to an impoſſibility, becauſe he was willing to fabricate the converſe to the preceding, without any intervening medium. For the eighth theorem, indeed, which is the converſe of the fourth, brings great diſturbance, becauſe it makes converſion difficult to be known. For it is more excellent to exhibit converſe theorems, by preſerving the continuity through an impoſſible, than to deſtroy the continuity by a principal demonſtration. And hence, Euclid ſhews almoſt all converſe theorems by a deduction to an impoſſibility.

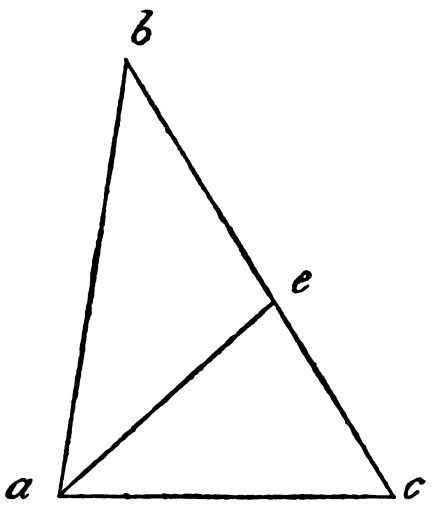
PROPOSITION XX. THEOREM XIII.

Two ſides of every triangle, however taken, are greater than the remaining one.

The Epicureans oppoſe the preſent theorem, aſſerting that it is manifeſt even to an aſs; and that it requires no demonſtration: and beſides this, that it is alike the employment of the ignorant, to conſider things manifeſt as worthy of proof, and to aſſent to ſuch as are of themſelves immanifeſt and unknown; for he who confounds theſe, ſeems to be ignorant of the difference between demonſtrable and indemonſtrable. But that the preſent theorem is known even to an aſs, they evince from hence, that graſs being placed in one extremity of the ſides, the aſs ſeeking his food, wanders over one ſide, and not over two, Againſt theſe we reply, that the preſent theorem is indeed manifeſt to ſenſe, but not to reaſon producing ſcience: for this is the caſe in a variety of concerns. Thus for example, we are indubitably

certain from ſenſe, that fire warms, but it is the buſineſs of ſcience to convince us how it warms; whether by an incorporeal power, or by corporeal ſections; whether by ſpherical, or pyramidal particles. Again, that we are moved is evident to ſenſe, but it is difficult to aſſign a rational cauſe how we are moved; whether over an impartible, or over an interval: but how can we run through infinite, ſince every magnitude is diviſible in infinitum? Let, therefore, the preſent theorem, that the two ſides of a triangle are greater than the remainder, be manifeſt to ſenſe, yet it belongs to ſcience to inform us how this is effected. And, thus much may ſuffice againſt the Epicureans.

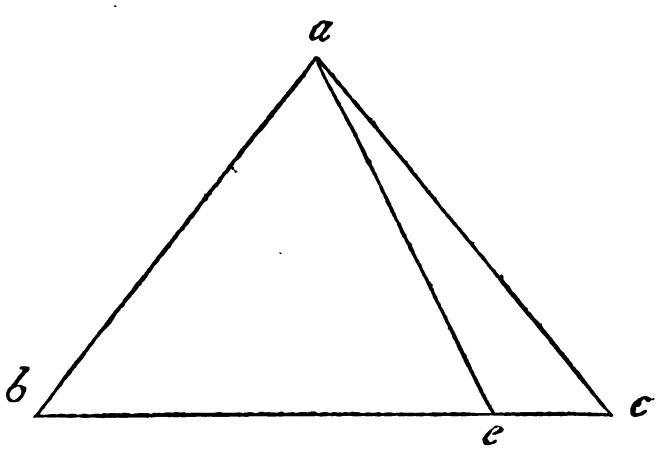
But it is requiſite to relate the other demonſtrations of the preſent theorem, ſuch as Heron, and the familiars of Porphyry have fabricated, without producing the right line, after the manner of Euclid. Let there be a triangle *a b c*, it is requiſite, therefore, to ſhew, that that the ſides *a b*, *a c*, are greater than the ſide *b c*. Biſect the



angle at *a*, by the right line *a e*. Becauſe, therefore, the angle *a e c*, is external to the triangle *a b e*, it is greater than the angle *b a e*. But the angle *b a e*, was placed equal to the angle *e a c*. The angle, therefore, *a e c*, is greater than the angle *e a c*. Hence, the ſide alſo *a c*, is greater than the ſide *c e*. And for the ſame reaſon the ſide *a b*,

is

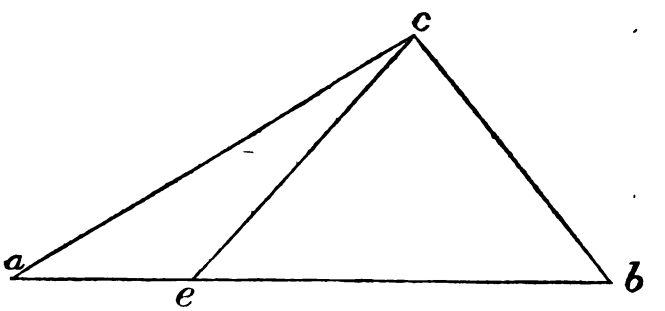
is greater than the ſide *b e*. For the angle *a e b* is external to the triangle *a e c*, and is greater than the angle *c a e*; that is than the angle *e a b*. And on this account the ſide *a b*, is greater than the ſide *b e*. The ſides, therefore, *a b*, *a c*, are greater than the whole ſide *b c*. And the like may be ſhewn of the other ſides. Let there again be a triangle *a b c*. If therefore the triangle *a b c*, be equilateral, two ſides will be doubtleſs



greater than the remaining one: for when there are three equal quantities, any two are double of the remainder. But if it be iſoſceles, it will have a baſe either leſs, or greater than each of the equal ſides. If therefore the baſe be leſs, the two ſides are given greater than the remainder. But if the baſe be greater, let it be *b c*, and cut off from it a part equal to either of the ſides, which let be *b e*, and connect *a e*. Becauſe, therefore, the angle *a e c*, is external to the triangle *a e b*, it is greater than the angle *b a e*. On the ſame account the angle *a e b*, is greater than the angle *c a e*. Hence, the angles about the point *e*, are greater than the whole angle about the point *a*, of which *b e a* is equal to *b a e*, ſince *a b* is equal to *b e*. The remainder, therefore, *a e c*, is greater than the remainder *c a e*. Hence, the ſide *a c*, is greater than the ſide *c e*. But the ſide *a b*, was alſo equal to the ſide *b e*. The ſides, therefore, *a b*, *a c*, are greater than the ſide *b c*.

But

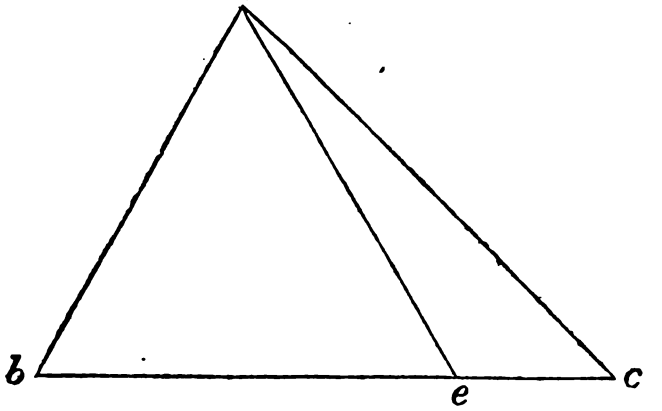
But if the triangle *a b c*, be ſcalene, let the greateſt ſide be *a b*, the



middle *a c*, and the leaſt *c b*. The greateſt ſide, therefore, aſſumed with either of the others, exceeds the remainder: for by itſelf it is greater than either. But if we are deſirous of ſhewing that the ſides *a c*, *c b*, are greater than the greateſt ſide *a b*, we muſt employ the ſame conſtruction as in the iſoſceles triangle, cutting off from the greater ſide, a part equal to one of the other ſides, and connecting the line *c e*, and uſing the external angles of the triangles.

Let there be again any triangle *a b c*. I ſay that the ſides *a b*, *a c*, are greater than the ſide *b c*. For if they are not greater, they are

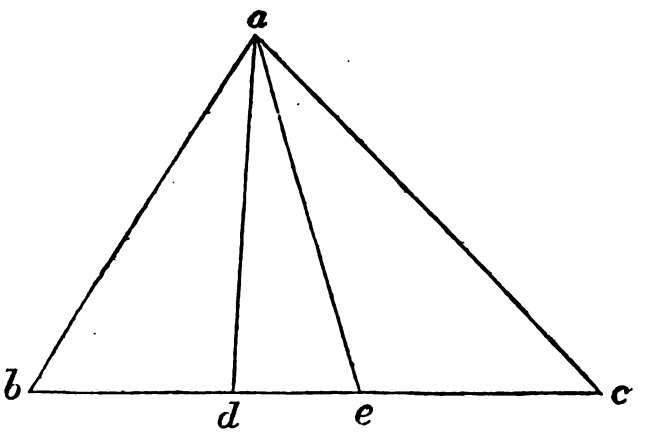
a



either equal or leſs. Let them be equal, and cut off *b e*, equal to *a b*. The remainder, therefore, *e c*, is equal to *a c*. Becauſe then, *a b*, *b e*, are equal, they ſubtend equal angles; and this is likewiſe true of *a c*, *e c*, becauſe they are equal. Hence, the angles at the point *c*, are equal to the angles at the point *a*, which is impoſſible. Again let

the

the ſides *a b*, *a c*, be leſs than *b c*, and cut off *b d*, equal to *a b*, and



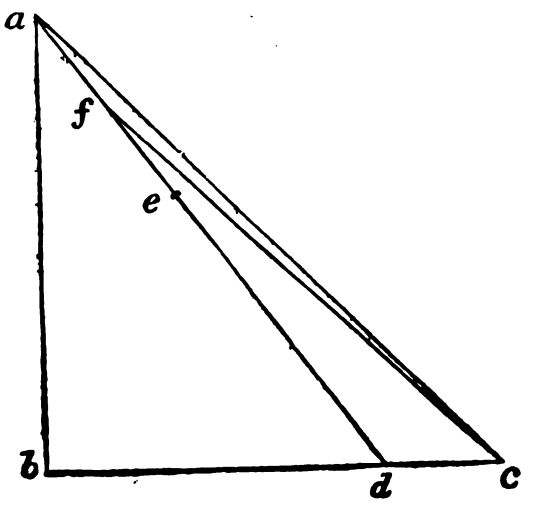
e c to *a c*. Becauſe, therefore, *a b* is equal to *b d*, the angle *b d a*, is not unequal to the angle *b a d*. And becauſe *a c* is equal to *c e*, the angle *c e a*, is equal to the angle *e a c*. Hence, the two angles *b d a*, *c e a*, are equal to the two *b a d*, and *e a c*. Again, becauſe the angle *b d a* is external to the triangle *a d c*, it is greater than the angle *e a c*: for it is greater than *c a d*. By a ſimilar reaſon alſo, becauſe the angle *c e a*, is external to the triangle *a b e*, it is greater than the angle *b a d*: for it is greater than the angle *b a e*. Hence, the angles *b d a*, *c e a*, are greater than the two *b a d*, *e a c*. But they were alſo equal to them, which is impoſſible. The ſides, therefore, *a b*, *a c*, are neither equal to, nor leſs than the ſide *b c*, but greater. And the like may be exhibited in others.

PROPOSITION XXIV. THEOREM XIV.

If upon one ſide of a triangle, two right lines beginning from the extremities, are internally conſtituted, the conſtituted right lines will be leſs than the other ſides of the triangle, but they will contain a greater angle.

That which is expreſſed by the propoſition, is, indeed, manifeſt; and the demonſtration adopted by the elementary inſtitutor, is evident; and the theorem is conſequent to the firſt principles, ſince it depends on two theorems, the one previouſly exhibited, and the ſixteenth.

teenth. For in order to ſhew, that the lines internally conſtituted, are leſs than the external, the theorem is required, which ſays, *the two ſides of every triangle, are greater than the remaining one*: but for the purpoſe of confirming that the angle comprehended by them is greater than that comprehended by the external ſides, that theorem procures the greateſt utility, which ſays, *the external angle of every triangle, is greater than the internal and oppoſite angle.* But you will receive at the ſame time, conviction of geome rical diligence, and a commemoration of things admirable in the mathematical diſciplines, if we ſhall ſhew *that it is poſſible within a certain triangle, upon one of its ſides, not upon the whole, but upon ſome one of its parts, to conſtitute two right lines greater than the external right lines* *; *and again, others comprehending a leſs angle, and comprehended in the angle made by the external lines.* For this being exhibited, it will at the ſame time be manifeſt, that the inſtitutor of the Elements neceſſarily adds, that the internally conſtituted lines muſt begin from the extremities of the common baſis; and muſt be conſtituted upon one whole ſide, and not upon any one of its parts: but likewiſe, as I have ſaid, one of the admirable things which geometry contains, will be manifeſt. For is it not, indeed, admirable, that the lines conſtituted upon the whole ſide, ſhould be leſs than the external ſides: but that thoſe conſtituted upon a part ſhould be greater? Let there be then a right angled triangle *a b c*, having the angle at the point *b* right, and take in the ſide *b c*, any point *d*, and connect *a d*. Hence, *a d* is greater than *a b*. Take from

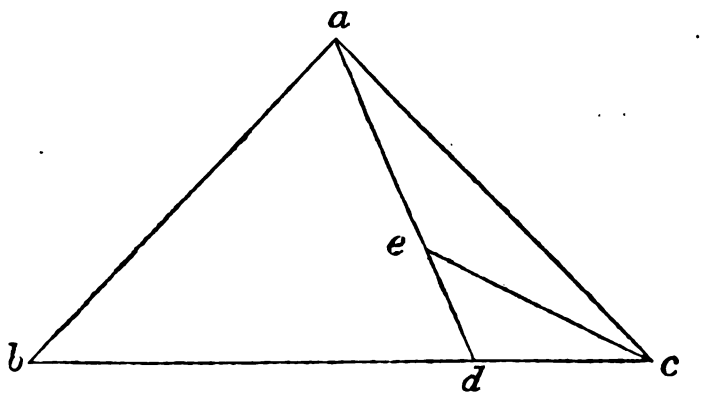


* Pappus in Mathem. Collect. ſhews that any two ſides, whoſe ratio to the external ſides is leſs than two to one, may be inſcribed after this manner in a triangle.

a d,

a d, a part equal to *a b*, which let be *d e*, and biſect *e a*, in the point *f*, and connect *f c*. Becauſe, therefore, *a f c* is a triangle, the lines *a f*, *f c*, are greater than *a c*. But *a f* is equal to *f e*. The right lines therefore, *f e*, *f c*, are greater than *a c*. But *d e* is equal to *a b*. Hence, the right lines *f c*, *f d*, are greater than the right lines *a b*, *a c*, and they are internally conſtituted.

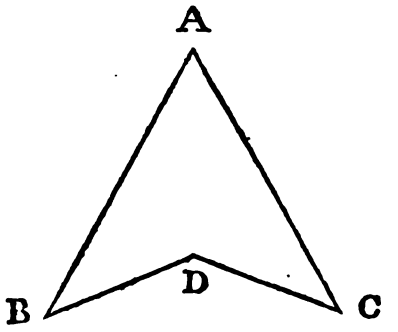
Let there be again an iſoſceles triangle *a b c*, having the baſe *b c*, greater than either of the equal ſides. Then from *b c*, cut off *b d*,



equal to *a b*, and connect *a d*, and take in *a d*, any point *e*, and connect *e c*. Becauſe, therefore, *a b*, is equal to *b d*, the angle *b a d*, is alſo equal to the angle *b d a*. And becauſe the angle *b d a* is external to the triangle *e d c*, it is greater than the internal and oppoſite *d e c*. Hence, the angle *b a d*, is greater than the angle *d e c*. Much more, therefore, is the angle *b a c*, greater than the angle *d e c*; and *b a c* is contained by the external lines, but *d e c* by internal lines. Within a triangle, therefore, right lines *d e*, *e c*, comprehending a leſſer angle, are conſtituted within the angle comprehended by the external lines; and the thing propoſed is ſhewn without employing the parallel lines of expoſitors. Hence, it is neceſſary that the conſtituted right lines ſhould begin from the extremities of the baſis: for thoſe which are conſtituted upon any one of its parts, are ſhewn to be ſometimes greater than the external lines, and to comprehend a leſſer angle. But when they are conſtituted in this manner, beginning from the extremities, the ſpecies of triangles, called (ἀκιδοειδὴ) or, ſimilar to the point of a ſpear *, preſents itſelf to our view; and is one of the admirable things contained in geometry, viz. to find a quadrilateral tri-

* See likewiſe concerning theſe triangles. Vol. I. p. 173 of theſe Commentaries.

angle. As for example, the triangle A B C. For it is contained by the four ſides B A, A C, B D, D C; but it has three angles, one at B, the other at A, and the other at C. And hence, the preſent figure is a quadrilateral triangle.



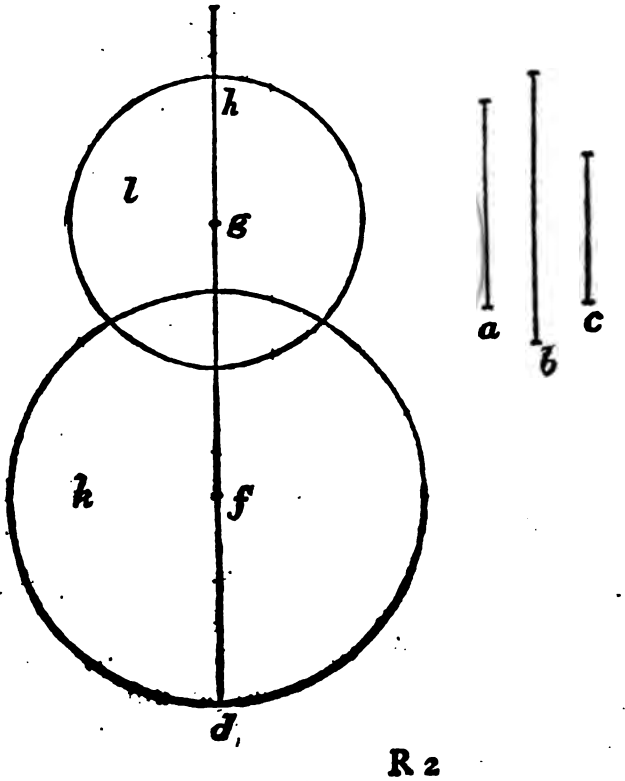
PROPOSITION .XXII. Problem VIII.

To conſtruct a triangle from three right lines, which are equal to three given right lines. But it is requiſite that two of the lines muſt be greater than the remaining one, in whatever manner they may be taken.

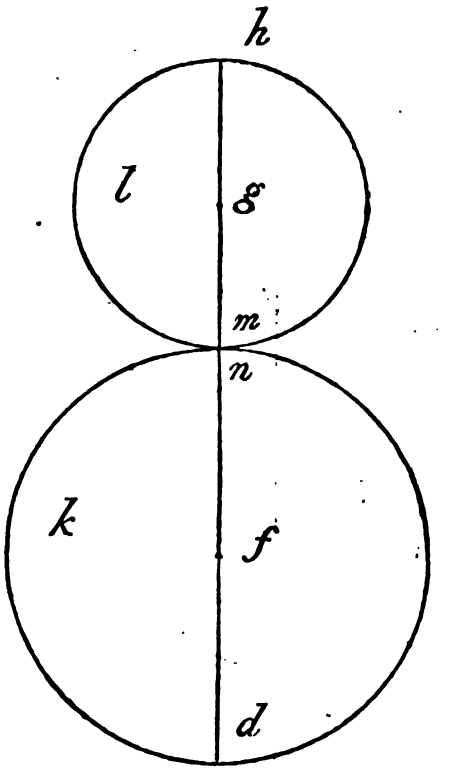
We again paſs to problems, and Euclid commands us to conſtruct a triangle from three propoſed right lines, two of which are greater than the remaining one, equal to given right lines. Becauſe he knew this in the firſt place, that it was impoſſible to conſtruct a triangle from thoſe ſame lines, which had already received the declared poſition: but that this was poſſible to be effected from their equals. In the next place, he knew it was neceſſary that two of the right lines about to complete the triangle, ſhould be greater than the remaining one: for the two ſides of every triangle are greater than the remaining one, however aſſumed, as we have ſhewn. On this account he adds, *that it is neceſſary the firſt right lines remaining, to conſtruct a triangle from three equal to them: but that it is requiſite, any two, however taken, ſhould be greater than the remainder, or there will not be a triangle from three lines equal to the given right lines.* But by this means he alſo deſtroys all the objections which are urged againſt the conſtruction, and which may be perfectly diſſolved by this addition. Hence, the preſent problem ranks among things determined, and not

among ſuch as are indetermined : For of problems as well as of theorems, ſome are indeterminate, but others without termination. Thus if we ſhould ſimply ſay, *from three right lines which are equal to three given right lines, to conſtruct a triangle*, the problem is indeterminate and impoſſible. But if we add, *two of which, however aſſumed, are greater than the remainder*, the problem is determined and poſſible. For as the diviſion of theorms takes place, according to true and falſe, ſo that of problems according to a poſſible and impoſſible enunciation. But that the objections which are urged againſt the conſtruction, may be from hence diſſolved, we ſhall learn from a little inſpection: for we ſhall follow the words of the geometrician. Let there be three right lines, *a b c*, of which any two, however taken, are greater than the third, and let it be required to accompliſh the thing propoſed. Let there be placed a certain right line *d e*, on one part finite, as at the point *d:* and on the other part infinite. Then place *d f* equal to *a*, but *f g* to *b:* and *g h* to *c*. And from the centre *f*, but interval

e

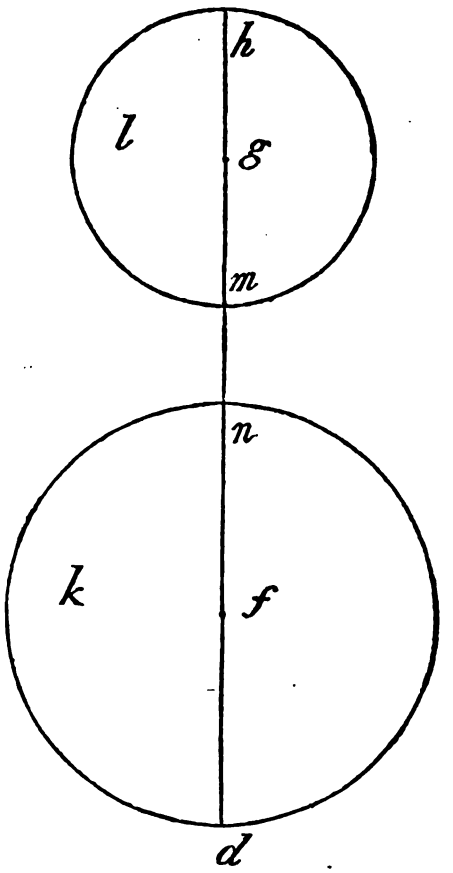


f d, let a circle *k* be deſcribed. Again, with the center *g*, but interval *g h*, let the circle *l* be deſigned; and the circles will interſect each other. For this is aſſumed by the inſtitutor of the Elements. But it may be aſked how this takes place? For perhaps they either only touch each other, or they do not even touch. Since it is neceſſary that they ſhould ſuffer ſome one of three caſes, I mean that they ſhould either interſect or touch, or be diſtant from each other. I ſay, therefore, that they neceſſarily interſect each other. For let them in the firſt place, touch each other. Becauſe, therefore, the point *f* is



the centre of the circle *k*, *d f* is equal to *f n*. And becauſe the point *g* is the centre of the circle *l*, *h g* is equal to *g m*. The two, therefore, *d f*, *g h*, are equal to one, viz. to *f g*. But they were placed greater than one, as alſo *a*, together with *c*, is greater than *b*. They are therefore equal to it, and at the ſame time greater, which is impoſſible. Again, if it be poſſible, let the circles be diſtant from each other, as *k* and

k and *l*. Becauſe, therefore, the point *f*, is the centre of the circle *k*,



d f, is equal to *f n*. And becauſe the point *g*, is the centre of the circle *l*, *h g* is equal to *g m*. The whole, therefore, *f g*, is greater than the two, *d f*, *h g*: for *f g*, exceeds *d f*, *g h*, by *n m*. But it was ſuppoſed that *d f*, *h g*, were greater than *f g*, in the ſame manner as *a* and *c* are greater than *b*. For *d f* was placed equal to *a*, but *f g*, to *b*, and *h g* to *c*. It is neceſſary, therefore, that the cirles *k l*, ſhould interſect each other. Hence, the inſtitutor of the Elements very properly receives them cutting one another: ſince of the three right lines, he ſuppoſes two greater than the third, however, they may be aſſumed, but neither equal to, nor leſs than one. But it is neceſſary that when the circles touch, two of the lines ſhould be equal to the third; and that when they are diſtant from each other, two ſhould be greater than the remainder.

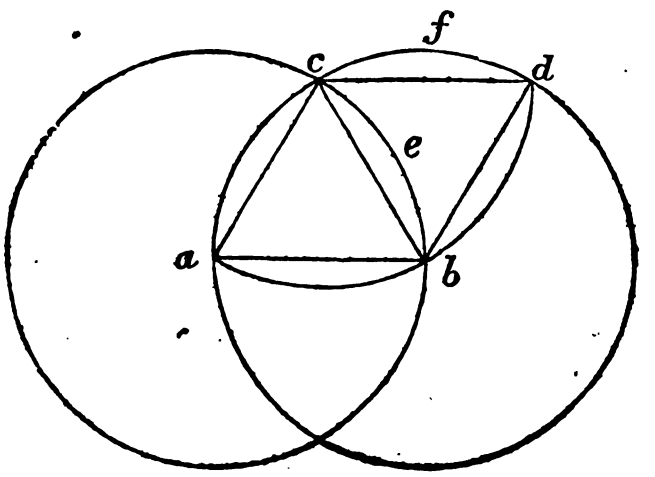
PROPOSITION XXIII. Problem IX.

On a given right line, and at a given point in it, to conſtitute an angle equal to a given right lined angle.

This alſo is a problem, whoſe invention according to Eudemus is rather the gain of Oenopides than of Euclid: but it requires the conſtruction of an angle, on a given right line; and at a given point in it equal to another right lined angle. This, then, Euclid neceſſarily adds, that the given angle muſt be rectilineal; becauſe it is impoſſible that an angle can be conſtructed on a right line equal to every angle. For it has been ſhewn† that there are only two curve-lined angles equal to right-lined angles, viz. the angle of a lunular figure, which we have proved equal to every right lined angle; and the angle of that figure ſimilar to an axe*, which is equal to two thirds of a right

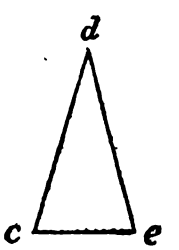
* In the ſecond comment of this book.

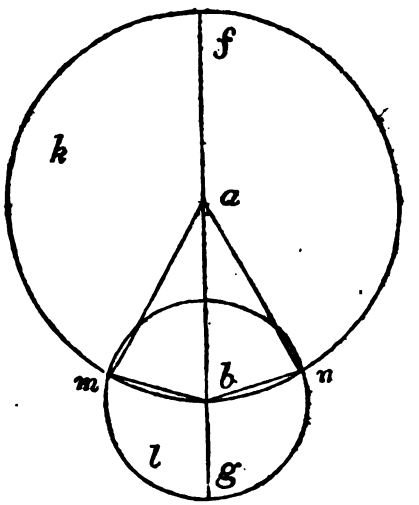
† This will be manifeſt from the following figure. Let the circles *a c*, *b d*, be drawn paſſing through their reſpective centers *a*, *b*; and from the centre *c*, with the radius *c b*, equal to *a b*, deſcribe the arch *a b d*, and draw the lines *c b*, *c d*, *c a*. Then becauſe *a c b* is an equilateral triangle, as alſo *c b d*, each of the angles *a c b*, *b c d*, ſhall be equal to $\frac{2}{3}$ of one right angle; and becauſe the biline *c d*, is equal to the biline *c b*, hence, the angle formed by the arch *c b*, and the arch *c d*, viz. the angle *e c f*, ſhall be equal to the angle formed by the right line *c b*, and the right line *c d*, i. e. to $\frac{2}{3}$ of one right angle. Q. E. D.



angle

angle. But a lunular figure of this kind, which is called (πελεκοειδὴς) Pelecoides, is formed from two circles cutting each other through their centres. However, the conſtruction of an angle on a certain right line, cauſes the conſtituted angle to become determinate, and not indifferent in ſpecies, but forms it either right-lined, or mixt. But ſince no mixt can be equal to a right-lined angle, it is manifeſt that this muſt be perfectly rectilineal. The inſtitutor of the Elements, therefore, ſimply uſing the preſent problem, and conſtructing a triangle from three right lines, equal to three given lines, accompliſhes the thing propoſed. But you may receive a more exquiſite conſtruction of the triangle, by the following method. Let there be a

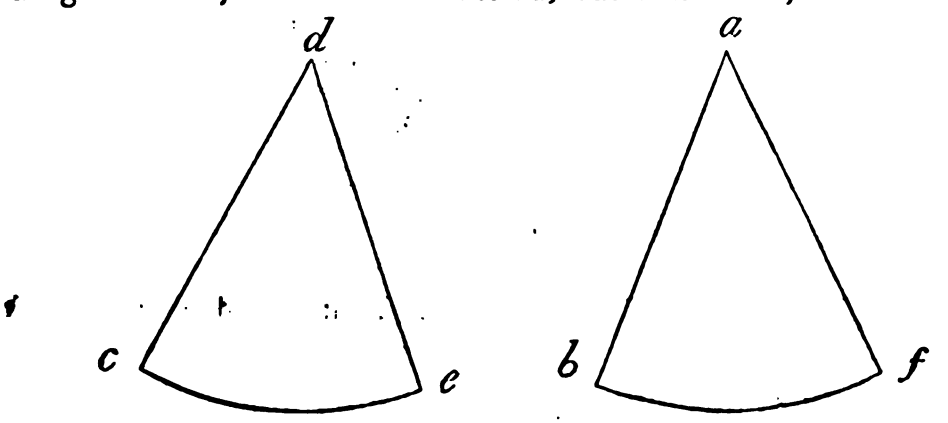




given right line *a b*, and a given point in it *a*, and a given right lined

lined angle *c d e*. It is required, therefore, to accompliſh the problem. Connect *c e*, and produce *a b* on both ſides to the points *f*, *g*. Then place *f a*, equal to *c d*, and *d e* to *a b*, and *b g* to *e c*. And with the centre *a*, but interval *a f*, deſcribe the circle *k*. And again, as in the preceding, with the centre *b*, but interval *b g*, deſcribe the circle *l*. The circles, therefore, will cut each other, as we have ſhewn in the laſt propoſition Let them cut each other in the points *m*, *n*, and from theſe points draw right lines to the centres as in the figure. Becauſe, therefore, *f a*, is equal to *a m*, and *a n*, but *c d*, is equal to *f a* ; *a m*, and *a n*, will be each equal to *c d*. Again, becauſe *b g* is equal to *b m*, and *b n*, but *g b* is not unequal to *c e*; *b m*, and *b n*, will be alſo equal to *c e*. But *a b* is equal to *d e*. The two therefore, *a b*, *a m*, are not unequal to the two *d e*, *d c*, and the baſe *b m*, is equal to the baſe *c e*. Hence, the angle *m a b*, is equal to the angle at the point *d*. And again, the two *n a*, *a b*, are equal to the two *c d*, *d e*, and the baſe *n b*, is equal to the baſe *c e*. The angle, therefore, *n a b*, is equal to the angle *c d e*, and the thing propoſed is doubly accompliſhed : for we have not only conſtituted one, but two angles, equal to the given angle, on each ſide of the right line *a b*; ſo that in whatever part we may deſire the conſtruction to be made, it will be indubitable, and without contradiction. And this we have added to the conſtruction of the elementary inſtitutor.

But we cannot praiſe the method of Apollonius, becauſe it requires the aſſiſtance of the third book. For he receives any angle *c d e*, and a right line *a b*, and with the centre *d*, but interval *c d*, he deſcribes



a

a circumference *c e*. In like manner with the centre *a*, but interval *a b*, he deſcribes a circumference *b f*; and intercepting a circumference *c e*, equal to *b f*, he connects the right line *a f*, and affirms that the angles *a* and *d*, inſiſting on equal circumferences, are equal. But it is neceſſary to pre-aſſume that *a b* is equal to *c d*, in order that the circles may may be alſo equal. We therefore think that a demonſtration of this kind requiring poſterior propoſitions, is foreign from an elementary inſtitution; and we give the preference to that of the geometrician, as conſequent to principles.

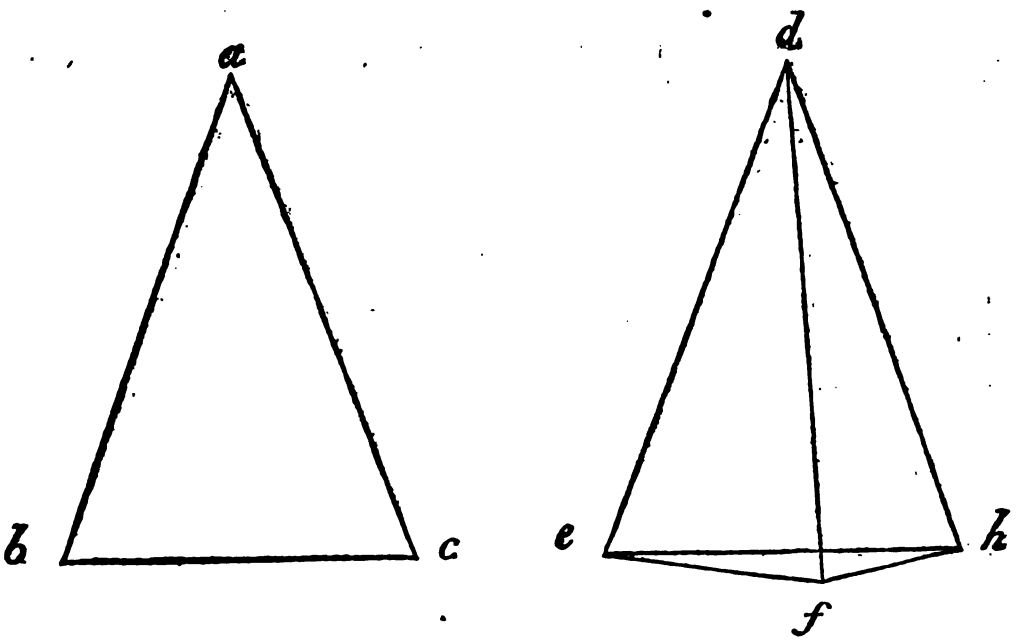
PROPOSITION XXIV. THEOREM XV.

If two triangles have two ſides equal to two, each to each, but the one angle contained by the equal right lines greater than the other: they ſhall alſo have the baſe of the one greater than the baſe of the other.

Euclid again paſſes on to theorems, and ſpeaks concerning inequality in two triangles, in a manner ſimilar to his diſcourſe concerning equality. For ſuppoſing two triangles, having two ſides equal to two, each to each, he ſometimes places the vertical angle equal in each, and ſometimes unequal; and he proceeds in a ſimilar manner with reſpect to the baſe. Beſides this, he demonſtrates that the equality of the baſes is conſequent to the equality of the vertical angle, and that the equality of the vertical angles, is conſequent to the equality of the baſes: but he now ſhews that the inequality of the one, follows the inequality of the other. The preſent theorem, therefore, is oppoſite to the fourth: for that, indeed, ſuppoſes the vertical angles of the triangles equal, but this ſuppoſes them unequal. And that demonſtrates the equality of their baſes; but this proves them unequal, in the ſame manner as their angles. It precedes, however, the following theorem: for that deduces its proof of inequality from the baſes to the angles ſubtending the baſes: but this, on the contrary, reaſons from the angles to the baſes, which are under the angles. Hence it is, after this manner, the converſe of its conſequent propoſition, but oppoſite to the eighth theorem. For the one from the equality of the

baſes, demonſtrates the equality of the vertical angles, but the other from the inequality of the baſes, ſhews that the vertical angles are unequal. It is, however, common to theſe four (two of which are converſant with equality, I mean the fourth, and the eighth, but two about inequality, the preſent and the following; and two begin from angles, viz. the fourth, and the object of inveſtigation in the preſent, but two from baſes, viz. the eighth, and the following propoſition); it is common, I ſay, to all theſe four, as well to the fourth and the eighth, as to the twenty-fourth and twenty-fifth, to have two ſides equal to two, each to each. For theſe being unequal, all enquiry is ſuperfluous, and ſubject to deception. And thus much for a univerſal ſpeculation concerning the preſent theorem.

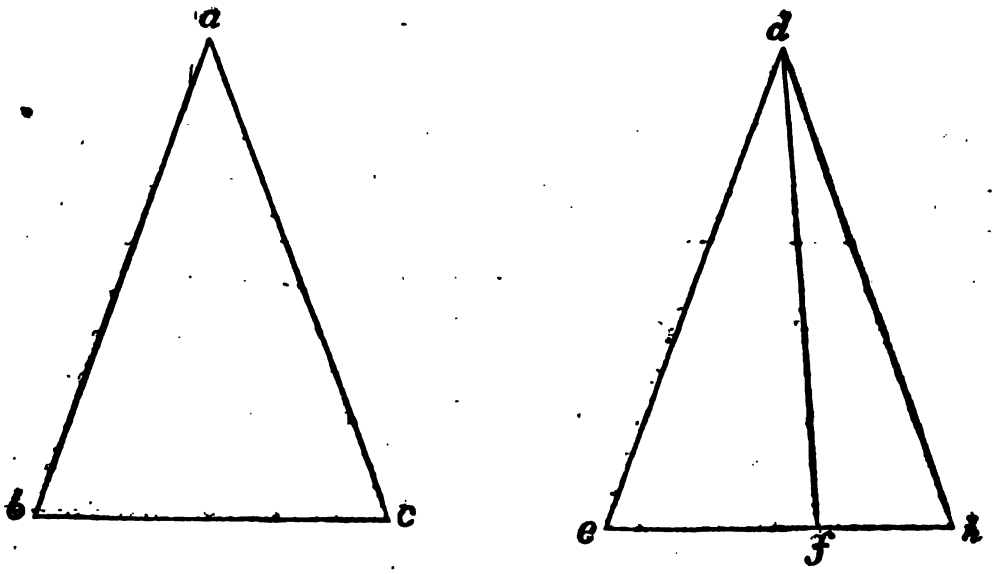
But let us now conſider the conſtruction of the elementary inſtitutor, and add to it where deficient. For Euclid receiving two triangles, *a b c*, *d e f*, having the ſides *a b*, *a c*, equal to the ſides *d e*,



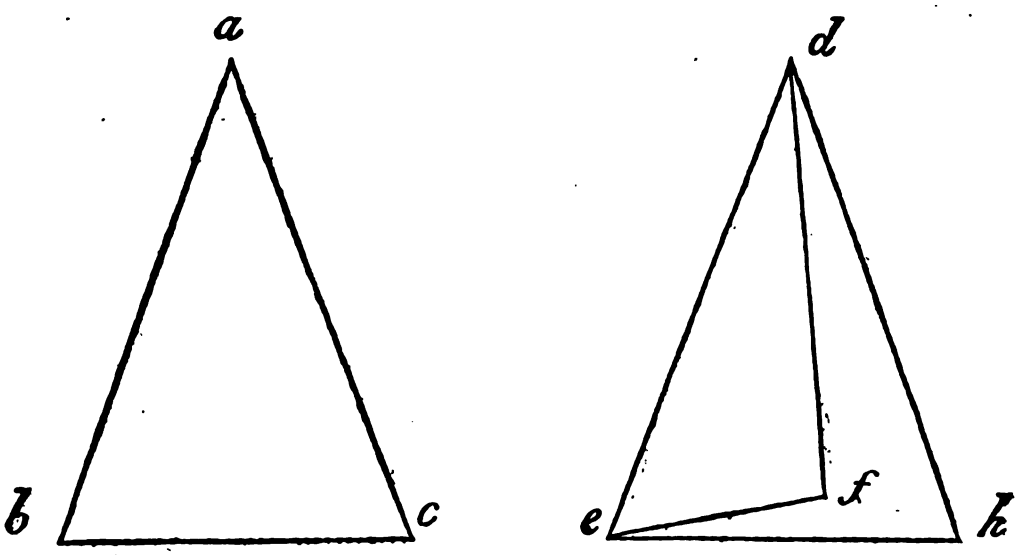
d f, each to each, and the angle at the point *a*, being greater than the angle at the point *d*, and willing to ſhew that the baſe *b c*, is greater than the baſe *e f*, on the right line *e d*, and at a point in it *d*, conſtitutes an angle *e d h*, equal to the angle at the point *a*. For the

d f,

angle at the point *a*, is greater than the angle at the point *d*, and he connects *d h*, equal to *a c*. The right line, therefore, *e h*, produced to the point *h*, either falls above, or upon, or beneath the line *e f*. The inſtitutor of the Elements, indeed, conſiders it as lying above the line. But let it be upon the right line. Again, therefore, we may exhibit the ſame. For the two *a b*, *a c*, are equal to the two *d e*, *d h*, and

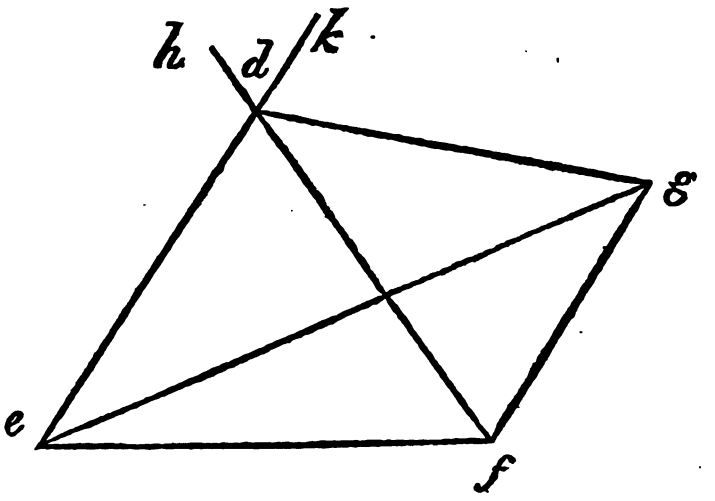


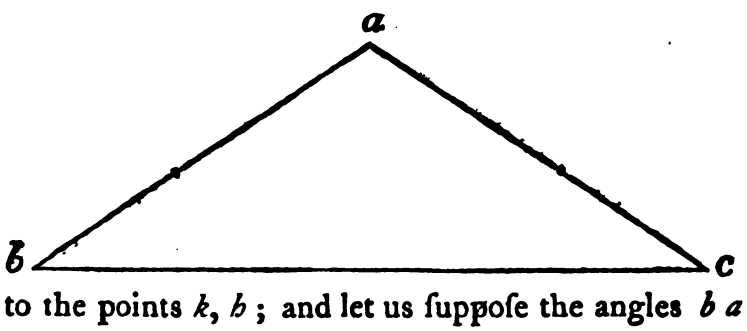
they contain equal angles. Hence, the baſe *b c*, is equal to the baſe *e h*. But *e h* is greater than *e f*; and on this account *b c* is greater than *e f*. Again, let it be placed beneath *e f*. Connecting, therefore, *e h*, we muſt ſay, that ſince *a b*, *a c*, are equal to *d e*, *d h*, and they comprehend equal angles, *b c* is alſo equal to *e h*. Becauſe, therefore, within the triangle *d e h*, two right lines *d f*, *f e*, are conſtructed on the ſide *d e*, they are leſs than the external ſides. But *d h*, is equal to *d f*: for it is equal to *a c*. Hence *h e* is greater than *e f*: But *h e* is equal to *b c*. And therefore, *b c* is greater than *e f*. The theorem, therefore, is exhibited according to every poſition. Why then, as is the fourth theorem, he at the ſame time demonſtrated



that the areas of triangles are equal, does he not add in the preſent, that beſides the inequality of the baſes, the areas alſo are unequal? Againſt this doubt we muſt ſay, that there is not the ſame proportion in equal, as in unequal angles and baſes. For when the angles and baſes are equal, the equality alſo of the triangles follows: but when they are unequal, it is not neceſſary that the inequality of the areas ſhould be conſequent; ſince the triangles may as well be equal, as unequal; and that may be greater, and likewiſe leſs, which contains the greater angle, and the greater baſe. On this account, therefore, the inſtitutor of the Elements leaves the compariſon of the triangles; to which we may add, that the contemplation of theſe, requires the doctrine of parallels.

But if it be requiſite, that anticipating things which are afterwards exhibited, we at preſent make a compariſon of areas, we muſt ſay, that if the angles *a*, *d*, are equal to two right, the triangles may be ſhewn to be equal: but when they are greater than two right, the leſſer triangle will be that which contains the greater angle; and when they are leſs than two right, this will be the caſe with the greater triangle. For let the conſtruction in the element be given, and produce



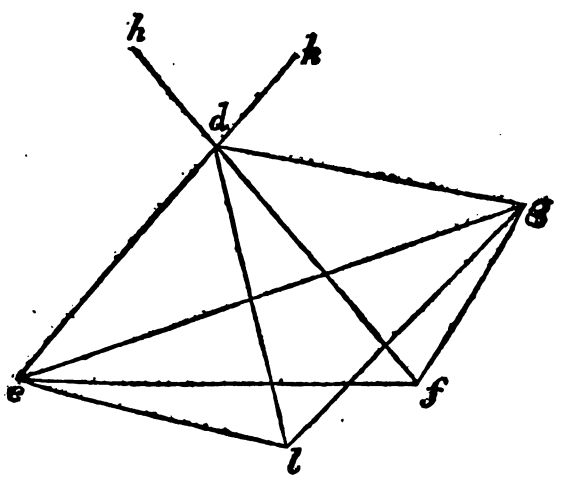


e d, *f d*, to the points *k*, *h*; and let us ſuppoſe the angles *b a c*, *e d f*, equal to two right. Becauſe, therefore, the angle *b a c*, is equal to the angle *e d g*, the angles *e d g*, *e d f*, are equal to two right. But the angles *e d g*, *k d g*, are alſo equal to two right. Let the common angle *e d g* be taken away, and the remainder *e d f*, will be equal to the remainder *k d g*. But *e d f* is equal to *h d k*; for they are vertical angles. Hence, the angle *k d g*, is equal to the angle *h d k*. And becauſe the angle *g d h*, is external to the triangle *g d f*, it is equal to the two internal and oppoſite angles at the points *g* and *f*. But theſe angles are equal to each other, becauſe *d g* is equal to *d f*. Hence, the angle *g d h*, is double of the angle at the point *g*, and of the angle at the point *f*. The angle, therefore, at the point *g*, is equal to the angle *g d k*, and they are alternate; and conſequently *d e* is parallel to *f g*. The triangles, therefore, *g d e*, *f d e*, are upon the ſame baſe *d e*, and between the ſame parallels *d e*, *g f*; and are conſequently equal. But the triangle *g d e*, is equal to the triangle *a b c*; and ſo

the

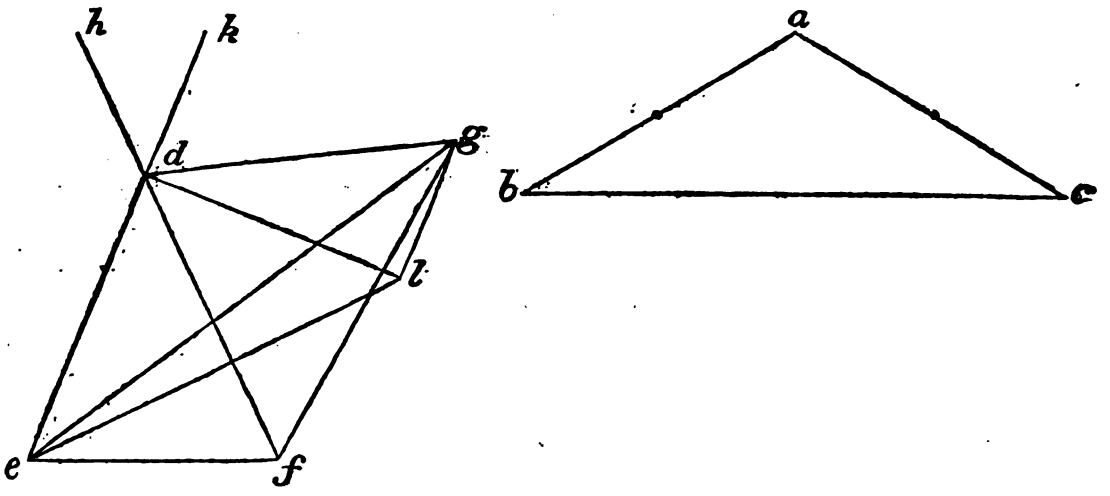
the triangle *d e f*, is not unequal to the triangle *a b c*. And here you may obſerve, that we require three theorems belonging to the doctrine of parallels; one, indeed, affirming, *that the external angle of every triangle is equal to the two internal and oppoſite angles*: but the other, *that if a right line falling upon two right lines, makes the alternate angles equal, the right lines are parallel*; and the third, *that triangles conſtituted upon the ſame baſe, and between the ſame parallels, are equal*, which the inſtitutor of the Elements alſo knowing, omits the compariſon of triangles.

But let the angles *b a c*, *e d f*, be greater than two right, and let the ſame things be conſtructed. Becauſe, therefore, the angles *b a c*, *e d f*, i. e. the angles *e d g*, *e d f*, are greater than two right; but the angles *e d g*, *g d k*, are equal to two right, by taking away the common angle *e d g*, the angle *e d f*, is greater than the angle *g d k*. Hence, the angle *g d h*, is more than double of the angle *g d k*; and ſo the angle *g d k*, is leſs than the angle at the point *g*. Let *g d k* be placed equal to *d g l*, and let *e l*, and *d l*, be connected:



g l, therefore, is parallel to *d e*; and hence, the triangles *g d e*, *l d e*, are equal. But the triangle *l d e*, is leſs than the triangle *f d e*. The triangle, therefore, *g d e*, is leſs than the triangle *f d e*. But the triangle *g d e*, is equal to the triangle *a b c*; and hence, the triangle *a b c*, is leſs than the triangle *f d e*, viz. is leſs than the triangle which contains the greater angle.

In the third place, let the unequal angles be leſs than two right, and let the ſame things be conſtructed. Becauſe, therefore, the angles *e d g*, *g d k*, are equal to two right, by taking away the common angle *e d g*, the whole *g d h*, is leſs than double of *g d k*. But it is double alſo of the angle at the point *g*. Hence, the angle *g d k*, is greater that the angle at the point *g*. Let the angle *d g l*, be placed equal to the angle *g d k*, and let *g l* coincide with *e l*, in the point *l*, and connect *d l*. Hence, *g l* is parallel to *d e*; and conſequently the triangles *g d e*, *l d e*, are equal to each other. But the triangle *l d e*, is greater than the triangle *f d e*; and the triangle *g d e*, is equal to the triangle *a b c*. Hence, the triangle *a b c*, is greater than the triangle *d f e*. It is ſhewn, therefore, that the triangle *a b c*, is both equal to,



and is alſo greater and leſs than the triangle *d e f*, the angles at the points *a* and *d*, being either equal to, or greater or leſs than two right. And thus, all the hypotheſes may be accompliſhed. For what if the angle at the point *a*, ſhould be one right, and the half of a right angle, but the angle at the point *b*, the half of one right, would not thoſe two angles be equal to two right? But what if the angle at the point *a*, ſhould be one right, and the half of a right, but the angle at the point *b*, two thirds of one right, would they not be greater than two right angles? And laſtly, if the angle at the point *a*, ſhould be one right, and the half of a right angle, but the angle at the point *b*,

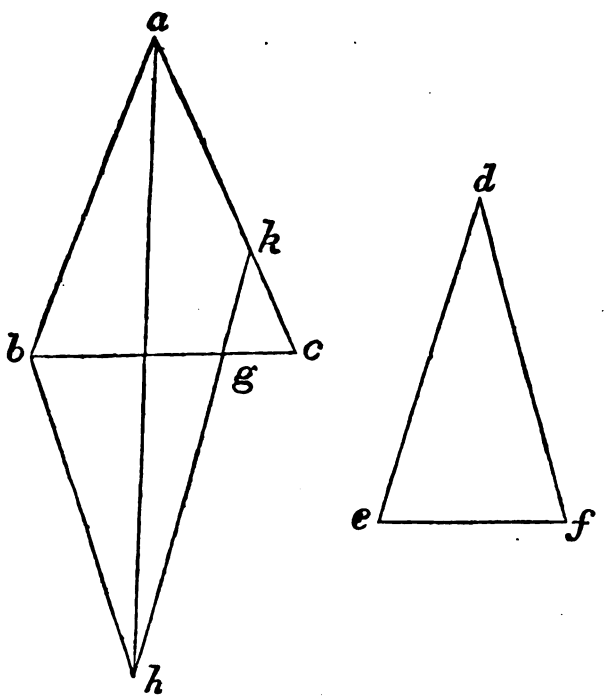
a third

a third part of a right angle, would they not be leſs than two right, and the angle *a* be greater than the angle *d*? All theſe compariſons, therefore, are produced by the aſſiſtance of parallels; and hence, they are neceſſarily not found in the preſent elementary inſtitution.

PROPOSITION XXV. THEOREM XVI.

If two triangles have two ſides equal to two, each to each, but have the baſe of the one greater than the baſe of the other; they ſhall likewiſe have the angle contained by the equal ſides in the one, greater than the angle contained by the equal ſides in the other.

The preſent theorem is the oppoſite to the eighth, but the converſe of the preceding. For the inſtitutor of the Elements produces theorems concerning the equality and inequality of angles and baſes, according to *conjunction*; in each of the *conjunctions*, receiving ſome as precedents, but others as converſe. And in ſuch as are precedent indeed, he employs direct oſtenſions: but in ſuch as are converſe, he uſes deductions to an impoſſibility. After this manner he proceeds in ſome particular triangle, ſometimes from the equality of the ſides which it contains, ſhewing the conſequent equality of the angles which they ſubtend: but ſometimes from their inequality evincing inequality. And again, on the contrary, affirming that equality of ſides is conſequent to equality of angles, but inequality to inequality. However, that we may proceed to the thing propoſed, we refer thoſe who are deſirous of learning how the geometrician ſhews when this is manifeſt, to his books on this ſubject. But we ſhall briefly relate the demonſtrations which others produce of this propoſition; and in the firſt place, that which Menelaus Alexandrinus invented and delivered. Let there be two triangles *a b c*, *d e f*, having the two ſides *a b*, *a c*, equal



equal to the two *d e*, *d f*, each to each, and the baſe *b c*, greater than the baſe *e f*, I ſay that the angle at the point *a*, is greater than the angle at the point *d*. For let there be cut from the baſe *b c*, a line *b g*, equal to the baſe *e f*, and conſtruct at the point *b*, an angle *g b h*, equal to the angle *d e f*, and place *b h* equal to *d e*. Laſtly, connect *h g*, and produce it to the point *k*, and connect *a h*. Becauſe, therefore, *b g* is equal to *e f*, but *b h* to *e d*, the two are equal to the two, and they contain equal angles. Hence, *g h* is equal to *d f*, and the angle *b h g*, is not unequal to the angle *e d f*. And becauſe *g h* is equal to *d f*, but *d f* to *a c*, *g h*, alſo, is equal to *a c*. Hence *h k* is greater than *a c*, and conſequently is much greater than *a k*. The angle, therefore, *k a h*, is greater than the angle *k h a*. Again, becauſe *b h*, is equal to *a b*, for it is equal to *d e*, the angle *b h a*, is equal to the angle *b a h*. Hence, the whole angle *b h k*, is leſs than the whole, *b a c*, but is ſhewn to be equal to the angle at the point *d*. The angle, therefore, *b a c*, is greater than the angle at the point *d*. And ſuch is the demonſtration of Menelaus.

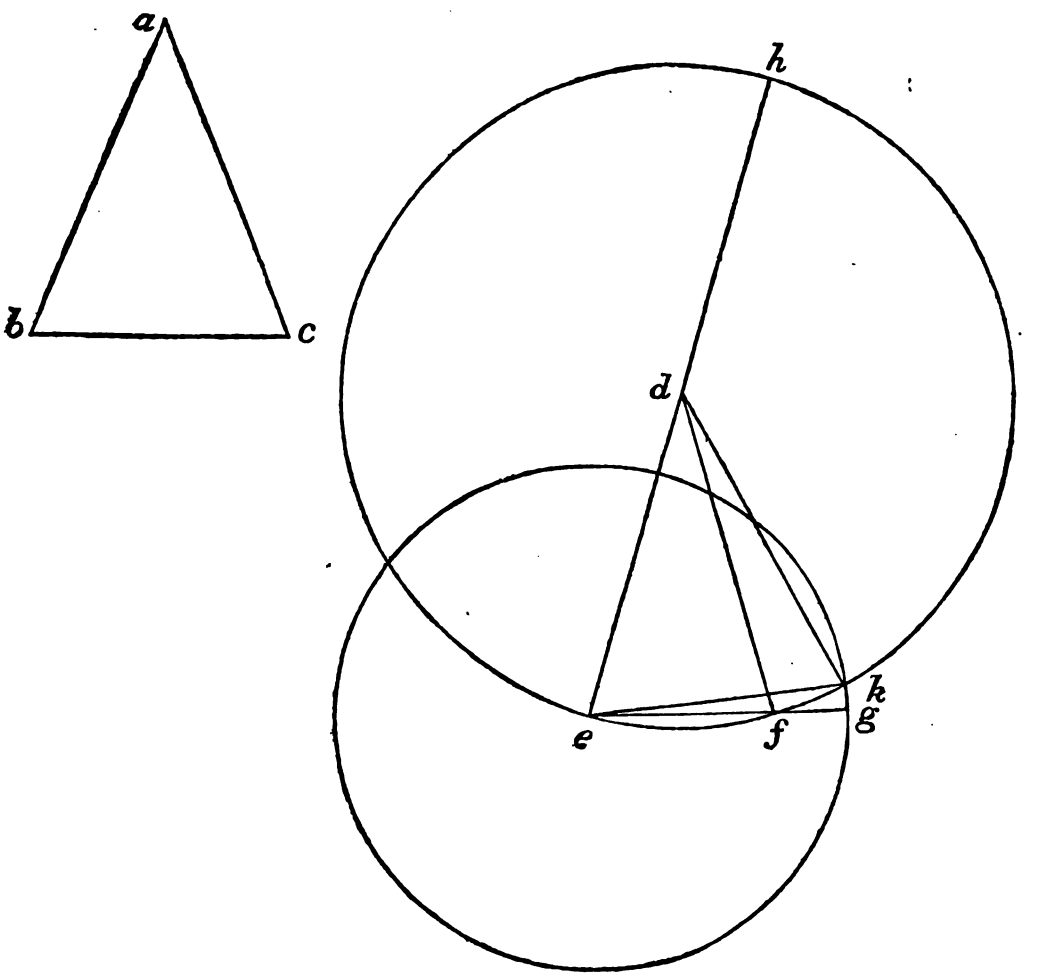
a third part of a right angle, would they not be leſs than two right, and the angle *a* be greater than the angle *d*? All theſe compariſons, therefore, are produced by the aſſiſtance of parallels; and hence, they are neceſſarily not found in the preſent elementary inſtitution.

PROPOSITION XXV. THEOREM XVI.

If two triangles have two ſides equal to two, each to each, but have the baſe of the one greater than the baſe of the other; they ſhall likewiſe have the angle contained by the equal ſides in the one, greater than the angle contained by the equal ſides in the other.

The preſent theorem is the oppoſite to the eighth, but the converſe of the preceding. For the inſtitutor of the Elements produces theorems concerning the equality and inequality of angles and baſes, according to *conjunction*; in each of the *conjunctions*, receiving ſome as precedents, but others as converſe. And in ſuch as are precedent indeed, he employs direct oſtenſions: but in ſuch as are converſe, he uſes deductions to an impoſſibility. After this manner he proceeds in ſome particular triangle, ſometimes from the equality of the ſides which it contains, ſhewing the conſequent equality of the angles which they ſubtend: but ſometimes from their inequality evincing inequality. And again, on the contrary, affirming that equality of ſides is conſequent to equality of angles, but inequality to inequality. However, that we may proceed to the thing propoſed, we refer thoſe who are deſirous of learning how the geometrician ſhews when this is manifeſt, to his books on this ſubject. But we ſhall briefly relate the demonſtrations which others produce of this propoſition; and in the firſt place, that which Menelaus Alexandrinus invented and delivered. Let there be two triangles *a b c*, *d e f*, having the two ſides *a b*, *a c*, equal

But Heron, the mechaniſt, ſhews the ſame thing, in the following manner, without leading to an impoſſibility, as is the caſe with the demonſtration of Euclid. Let there be two triangles *a b c*, *d e f*, with the ſame hypotheſes as above. And becauſe *b c* is greater than *e f*,



let *e f* be produced, and place *e g* equal to *b c*; and in like manner extend *d e*, and place *d h* equal to *d f*. The circle, therefore, which is deſcribed with the centre *d*, and interval *d f*, will paſs alſo through the point *h*. Let it be deſcribed as *f k h*. And becauſe *a c*, *a b*, are together greater than *b c*, but theſe are equal to *e h*, and *b c* is equal to *g e*, hence the circle which is deſcribed with the centre *e*, but interval

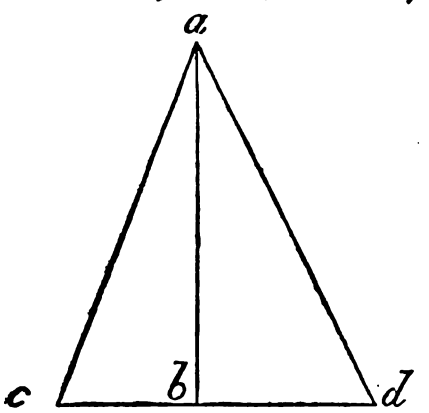
terval *e g*, will cut *e h*. Let it cut *e h*, as the circle *g k*, and connect from the common ſection of the circles to the centres, the right lines *k d*, *k e*. Becauſe, therefore, the point *d*, is the centre of the circle *h k f*, *d k* is equal to *d h*, i. e. to *a c*. Again, becauſe the point *e*, is the centre of the circle *g k*, the line *e k*, is equal to *e g*, i. e. to *b c*. Hence, ſince the two *a b*, *a c*, are equal to the two *d e*, *d k*, and the baſe *b c*, is equal to the baſe *e k*, the angle, alſo, *b a c*, is equal to the angle *e d k*. And thus the angle *b a c*, is greater than the angle *f d e*.

PROPOSITION XV. THEOREM XVII.

If two triangles have two angles equal to two, each to each, and one ſide equal to one ſide, either that which is adjacent to the equal angles, or that which ſubtends one of the equal angles: then they ſhall have the remaining ſides equal to the remaining ſides, each to each, and the remaining angle equal to the remaining angle.

It is neceſſary, that he who wiſhes to compare triangles with each other, according to ſides, angles, and areas, ſhould either, by receiving the ſides alone equal, enquire after the equality of angles; or by aſſuming the angles alone equal, inveſtigate the equality of the ſides; or by mingling the angles and ſides, ſcrutinize the equality of angles and ſides. Since, therefore, Euclid alone receives the angles equal, he could not likewiſe ſhew that the ſides of the triangles are equal. For the leaſt triangles are equiangular with the greateſt, though at the ſame time they are excelled by them, both according to ſides and comprehended ſpace: but the angles of the former are ſeparately equal to the angles of the latter. However, as he ſuppoſes the ſides alone to be equal, he demonſtrates that all are equal, by the eighth theorem, in which there are two triangles having two ſides

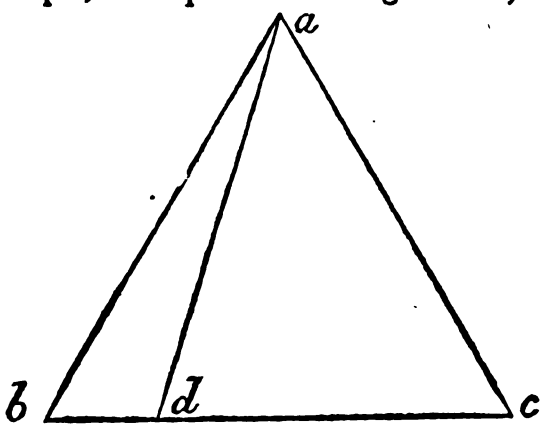
equal to two, each to each, and the baſe to the baſe, and theſe are ſhewn to be equiangular, and to poſſeſs a power of comprehending equal ſpaces. And the inſtitutor of the Elements omits this addition, as neceſſarily following from the fourth, and requiring no demonſtration. But when receiving ſides and angles, he ought to receive either one ſide equal to one, and one angle equal to one; or one ſide, and two angles of the triangles, equal to two; or on the contrary, one angle and two ſides; or one angle and three ſides; or one ſide and three angles; or more than one ſide, and more than one angle. But when he had received one angle, and one ſide, he could by no means ſhew the thing propoſed. I mean, the equality of the reſt. For it is poſſible that two triangles which are equal, according to one ſide only, and one angle, may be entirely unequal as to the reſt. Thus let there be a right line *a b*, perpendicularly erected upon the right line *c d*, but let *b d* be greater than *b c*, and connect *a c*, *a d*. In theſe tri-



angles, therefore, there is one common ſide, and one angleequal to one, but all the reſt are unequal. But it is lawful to receive one ſide, and two angles, and to prove the reſt equal, and this he performs by the preſent theorem: though again, to ſuppoſe one ſide, and three equal angles, is ſuperfluous; ſince from the equality of two alone, the equality of the reſt is exhibited. Again, receiving one angle, and two equal ſides, he demonſtrates that the reſt are equal in the fourth theorem. But it is ſuperfluous to receive one angle, and three equal ſides: for two equals being alone aſſumed, conclude the equa-

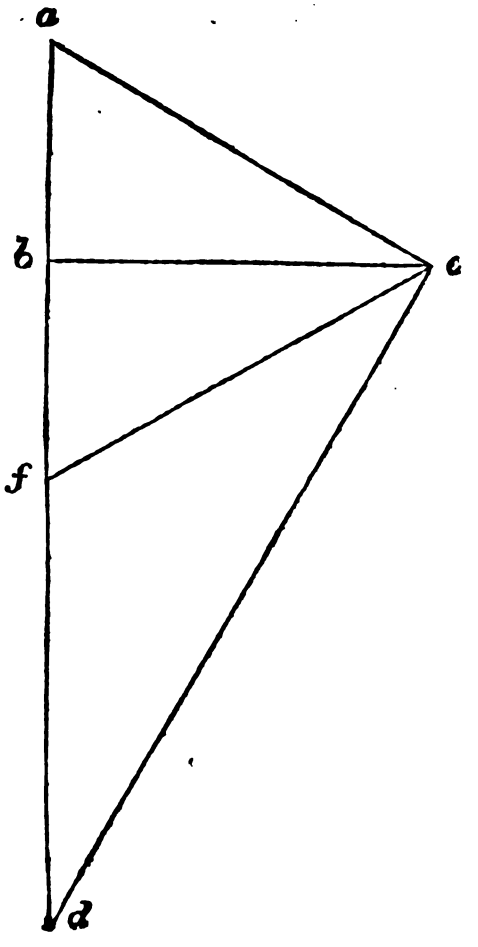
lity of the reſt. Beſides, it is ſuperfluous to aſſume two ſides, and two equal angles; or two ſides, and three equal angles; or two angles and three ſides; or three angles and three ſides. For the conſequents to fewer hypotheſes attend likewiſe a greater multitude, while the hypotheſes are received with proper conditions. Hence, three hypotheſes requiring demonſtration, preſent themſelves to our view, one, which alone receives three ſides; and another which aſſumes one ſide, and two angles, which the geometrician now propoſes; and a third, the oppoſite to this. On this account, we have only theſe three theorems, concerning the equality of triangles, which are converſant in ſides and angles; ſince all the other hypotheſes are either invalid for the purpoſe of ſhewing the object of enquiry; or they are valid indeed, but ſuperfluous, becauſe the ſame things may be readily procured by fewer hypotheſes. As, therefore, when he aſſumed two ſides equal to two, and one angle equal to one, he did not, indeed, aſſume every angle, but (as it was propoſed by him) that contained by equal right lines, in the ſame manner when he aſſumes two angles equal to two, and one ſide to one, he does not aſſume any ſide, but either that which is adjacent to the equal angles, or that which ſubtends one of the equal angles. For neither is it poſſible in the fourth theorem, by aſſuming any equal angle, nor in the preſent by aſſuming any ſide, to ſhew the equality of the reſt.

Thus for example, an equilateral triangle *a b c*, being given, let



the

the ſide *b c* be divided into unequal parts, by the line *a d*. Hence, there will be formed two triangles, having two ſides *a b*, *a d*, equal to the two *a c*, *a d*, and one angle at the point *b*, equal to one angle at the point *c*, but the remaining ſides will not alſo be equal, as for inſtance, the ſide *b d*, to the ſide *d c*: for they are unequal. But neither are the remaining angles equal: the reaſon of which is, becauſe we receive an angle equal to an angle, but not the angle which is contained by equal ſides. After the ſame manner, indeed, the preſent theorem alſo will appear dubious, unleſs we aſſume, according to the aforeſaid condition, an equal ſide ſubtending one of the equal angles, or adjacent to the equal angles. For let there be a right angled triangle *a b c*, having the angle at the point *b* right, and the ſide *b c*,



greater

greater than the ſide *b a*, and let there be conſtructed on the right line *b c*, and at a point in it *c*, an angle *b c d*, equal to the angle *b a c*, and let *b d*, *c d*, produced, coincide in the point *d*. There are two triangles, therefore *a b c*, *b c d*, having one ſide *b c* common, and two angles equal to two, viz. *a b c*, to *c b d* (for they are right), and *b a c* to *b c d*, according to conſtruction. Hence, as it appears the triangles are equal, and yet it may be ſhewn that the triangle *b d c*, is greater than the triangle *a b c*. But the reaſon of this is, becauſe in the triangle *a b c*, we aſſume the common ſide *b c*, ſubtending one of the equal angles, viz. the angle at the point *a:* but in the triangle *b c d*, we aſſume the equal ſide, adjacent to the equal angles. It was requiſite, therefore, in each, either to ſubtend one of the equal angles, or to be adjacent to the equal angles. But not obſerving this, we affirmed that triangle to be equal, which is neceſſarily greater: for is not the triangle *b c d*, greater than the triangle *a b c*? To be convinced of this, let there be conſtructed on the right line *b c*, and at a given point in it *c*, an angle *f c b*, equal to the angle *a c b:* for the angle *b c d*, as well as the angle at the point *a*, is greater than the angle *a c b*. Becauſe, therefore, there are two triangles, *a b c*, *b c f*, having two angles *a b c*, *b c a*, equal to two *c b f*, *b c f*, each to each, and one ſide common, adjacent to the equal angles, viz. *b c*, the triangles are equal. But the triangle *b c d* is greater than the triangle *b c f*, and conſequently it is alſo greater than the triangle *a b c*. But it was formerly ſhewn to be equal, on account of the aſſumption of any ſide: And thus much the diligence of Porphyry has ſupplied us on the preſent occaſion. But Eudemus, in his Geometrical Narrations, refers the preſent theorem to Thales. For he ſays it is neceſſary to uſe this theorem in determining the diſtance of ſhips at ſea, according to the method employed by Thales in this inveſtigation. But from the preceding diviſion we may briefly aſſume all the contemplation concerning the equality of triangles, and are enabled to relate the cauſes of things omitted, confuting thoſe hypotheſes, as either falſe, or ſuperfluous. And thus far we determine the limits of the firſt ſection of the elementary inſtitutor, becauſe he forms the conſtructions

conſtructions and compariſons of triangles, according to equal and unequal. And by conſtruction, indeed, he delivers their eſſence: but by compariſon, their identity and diverſity. For there are three things which are converſant about being, *eſſence*, *ſame*, and *different* *, as well in quantities, as in qualities, according to the propriety of ſubjects. From theſe, therefore, as images it may be ſhewn, that every thing is the *ſame* with itſelf, and *differs* from itſelf, on account of the multitude which it contains; and that all things are the *ſame* with one another, and *different* from themſelves. For both, in every triangle, and in more triangles than one, equality and inequality has been found to reſide.

* See more concerning theſe univerſal genera in the third ſection of the Diſſertation, Vol I. of this work.

BOOK

BOOK IV.

WHATEVER can be ſaid in an elementary inſtitution, concerning the origin and equality of triangles, we may learn from the preceding diſcourſe. But after this, the narration of Euclid is concerning quadrilateral figures, and he particularly teaches us concerning paralellograms, together with the contemplation of theſe delivering the doctrine of trapeziums. For a quadrilateral figure, (as we have formerly obſerved in our diſcourſe on hypotheſes,) is divided into paralellogram and trapezium; and a paralellogram into other certain ſpecies, and in like manner a trapezium. But becauſe a paralellogram, on account of its participation of equality, poſſeſſes diſpoſition and order, but a trapezium has neither the ſame, nor a ſimilar order; Euclid's principal diſcourſe, is with propriety, concerning paralellograms, but he alſo contemplates together with theſe a trapezium. For from the ſection of paralellograms, the origin of trapeziums will appear, as will be manifeſt as we proceed. But becauſe again, it is not poſſible that any thing can be ſaid of the conſtruction or equality of parallelograms, without the conſideration of parallels, (for as it is manifeſt from the very name, that is, a parallelogram, which is circumſcribed by parallel right lines in an oppoſite poſition,) hence, he neceſſarily aſſumes from parallels the beginning of his doctrine, but having advanced a little from theſe, he enters on the doctrine of parallelograms, employing one middle theorem, between the elementary inſtitution of each, becauſe he appears to contemplate a certain ſymptom inherent in parallels: but he delivers the firſt origin of a parallelogram. For ſuch is the propoſition, which ſays, that *right lines which join equal and parallel right lines towards the ſame parts, are themſelves equal and parallel.* For in this theorem, indeed, a certain accident to equal and parallel right lines is conſidered: but from the connection a paralellogram appears, having its ſides oppoſite and parallel. And from hence it is manifeſt that the diſcourſe con-

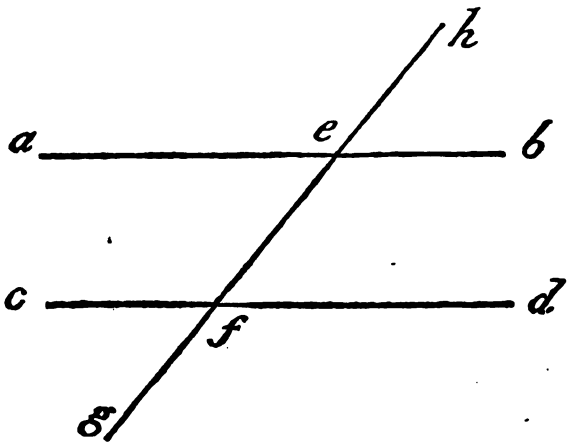
cerning parallels, was neceſſarily pre-aſſumed. But three things are to be aſſumed, eſſentially inherent in parallels, which they eſſentially expreſs, and are converted with them, not only the three together, but every one ſeparately aſſumed from the reſt. Of theſe, one is, *that when a right line cuts parallel lines, the alternate angles are equal*; but the ſecond, *that when a right line cuts parallel lines, the internal angles are equal to two right*; and the third, *that in conſequence of a right line cutting parallel lines, the external is equal to the internal and oppoſite angle*. For when any one of theſe *ſymptoms* is demonſtrated, we have ſufficient authority to affirm that the right lines are parallel. But other mathematicians, alſo, have been accuſtomed to diſcourſe after this manner concerning lines, delivering the ſymptoms of every ſpecies. For Apollonius, in each of the conical lines, ſhews what a *ſymptom* is, as alſo Nicomedes in his Treatiſe on Conchoids, and Hippias in his Quadratics, and Perſeus in his Spirals. Since after their origin, that which is eſſentially inherent in theſe lines, and according to what it is inherent, being aſſumed, diſtinguiſhes a conſtructed form from all others. After the ſame manner, therefore, the inſtitutor of the Elements, firſt of all inveſtigates, the ſymptoms of parallels.

PROPOSITION XXVII. THEOREM XVIII.

If a right line falling upon two right lines, makes the alternate angles equal to each other, thoſe right lines ſhall be parallel to each other.

In the preſent theorem it was not pre-aſſumed as evident that the right lines are in one plane, but this ought rather to be previouſly admitted in all theorems which are conſidered in a plane. This, however, is added, becauſe it does not univerſally follow, that when the alternate angles are equal, the right lines will be parallel, unleſs they are in the ſame plane. For nothing hinders, but that a right line falling on right lines diſpoſed in the ſhape of the letter X, one of

which is ſituated in one plane, but the other in a different one, may make the alternate angles equal; and yet the right lines thus diſpoſed will not be parallel. It was pre-aſſumed *, therefore, that in a treatiſe on planes, we conceive every thing deſcribed in one and the ſame plane: and on this account, he does not require this addition in the preſent propoſition. But it is requiſite to know that the geometrician conſiders the particle *alternate*, in a twofold reſpect, ſometimes, indeed, according to a certain ſituation, but ſometimes according to a certain conſequence of proportions. And according to this laſt ſignification, the particle *alternate* is uſed in the fifth book, and in ſuch as are arithmetical: but agreeable to the former, both in this, and in all the other books concerning parallel right lines, and that which falls upon theſe. For he calls the angles alternate, which are not formed at the ſame parts, and are not ſucceſſive to each other, which are diſtinct, indeed, from the incident line, but both of them exiſt within parallels, and differ in this, that the one has an upward, but the other a downward poſition. I ſay, for example, that when a right line *e f*, falls on the right lines *a b*, and *c d*, he calls the angles *a e f*, *d f e*, and alſo the angles *c f e*, *b e f*, *alternate*, or *altern*,



becauſe they have an alternate, or changed order, according to their poſition. But this too muſt be known, that from ſuch a ſituation

* In Book II. Comment 2. of this work.

of right lines, all the ſymptoms become by diviſion, ſix; three of which the geometrician alone receives; and three he omits. For we either aſſume the angles at the ſame parts, or not at the ſame. And if at the ſame parts, either both within the right lines, which ſhews them to be parallels; or both without, or one without, and the other within. And if not at the ſame parts, again, after the ſame manner, they are either both without the right lines, cutting the lines it is neceſſary to receive; or within; or one within, and the other without. But what we have ſaid will become manifeſt by the ſame deſcription as above. For let there be certain right lines *a b*, *c d*, and let a right line *e f*, fall upon them, and let it be produced to the points *h* and *g*. If then you aſſume angles at the ſame parts, you will either place them both within, as *b e f*, and *e f d*, or as *a e f*, and *e f c*; or both without, as *h e b*, and *d f g*, or as *h e a*, and *c f g*; or one within, and the other without, as *h e b*, and *e f d*, or as *g f d*, and *f e b*, or as *h e a*, and *e f c*, or as *g f c*, and *a e f*: for theſe laſt are received in a quadruple reſpect. But if you aſſume the angles not at the ſame parts, you will either place both within, as *a e f*, and *e f d*, or as *c f e*, and *f e b*; or both without, as *a e h*, and *d f g*, or as *h e b*, and *c f g*; or one within, and the other without, and this again in a quadruple reſpect. For they will either be the angles *a e h*, and *e f d*; or *h e b*, and *e f c*; or *g f c* and *f e b*; or *g f d*, and *f e a*. And beſides theſe, there is no other aſſumption.

As, therefore, angles are aſſumed according to ſix modes, the geometrician combines three aſſumptions alone; and theſe conſequent ſymptoms, are naturally adapted to expreſs parallels. But of theſe three aſſumptions, one belongs to thoſe angles which are not at the ſame parts, viz. to thoſe which are only aſſumed within; and theſe he calls alternate, ſo that thoſe, which are both external, and thoſe, one of which is external, but the other internal, are omitted: but two of theſe aſſumptions belong to angles at the ſame parts, to thoſe, indeed, which are both internal, which he ſays are equal to two right, and to thoſe, one of which is internal, but the other external, which he ſays are equal, leaving indeed one aſſumption which ſuppoſes both the

angles to be external. We therefore affirm that the ſame things will be conſequent to the three omitted hypotheſes. Thus, in the preceding figure, let both the external angles *b e b*, *d f g*, be at the ſame parts, I ſay that theſe are equal to two right angles. For the angle *d f e*, is equal to the angle *b e b*, and the angle *b e f*, to the angle *d f g*. But if the angles *b e f*, *e f d*, are equal to two right, the angles *d f g*, *b e b*, are equal to two right. Let again the angles *a e b*, *e f d*, not be towards the ſame parts, of which the one is within, but the other external, I ſay that theſe alſo are equal to two right angles. For if the angle *a e b*, is equal to the angle *b e f*, but the angles *b e f*, and *e f d*, are equal to two right, the angles, alſo, *a e b*, and *e f d*, are equal to two right. Again, let them not be at the ſame parts, but both without the right lines as *a e b*, *d f g*. I ſay that theſe are equal to one another. For if the angles *a e b*, and *b e f*, are equal to each other, but the angle *d f g*, is equal to the angle *b e f*, hence the angle *a e b*, is not unequal to the angle *d f g*. If, therefore, the things aſſumed by the geometrician, in three hypotheſes are verified, all the ſame follow in the remaining three as indiſputably true. Beſides this too is to be obſerved, that in ſuch as the geometrician receives theſe, according to two aſſumptions, the angles are ſuppoſed equal to each other, but when according to one aſſumption, equal to two right: but in theſe laſt on the contrary, according to two aſſumptions, they are ſuppoſed equal to two right angles, but according to one equal to each other. For ſince all the aſſumptions are ſix, it happens, indeed, from three, that the angles are equal to two right, but from the other three, that they are equal to each other. Hence, thoſe which are omitted are not undeſervedly contrary to the aſſumptions which are reckoned worthy of relation. But the geometrician appears to have choſen ſuch hypotheſes as either abound in affirmation, or are more ſimple, and on this account of thoſe angles which are not at the ſame parts, he aſſumed alone the internal, which he calls alternate: but of thoſe at the ſame parts, he aſſumes as well the internal, as well as one internal and the other external: but he avoids the reſt, either becauſe they are more declared by negation,

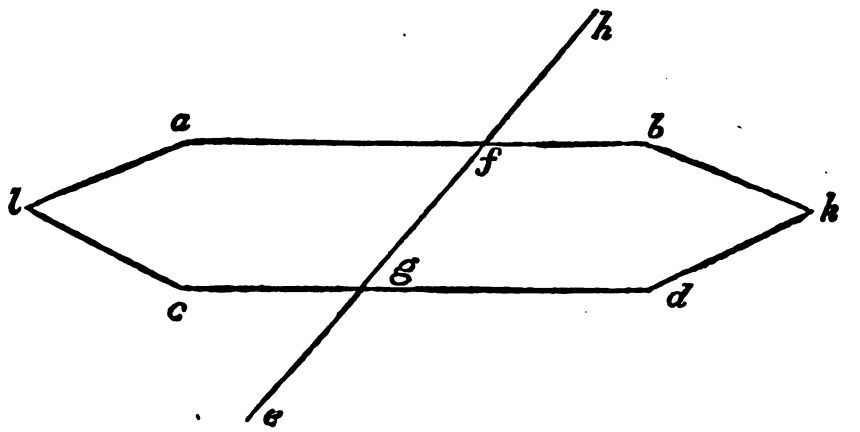
tion, or becauſe they are more various. However, whether this or ſome other be the cauſe, the number of the conſequents to thoſe hypotheſes is from hence ſufficiently manifeſt.

PROPOSITION XXVIII. THEOREM XIX.

If a right line falling upon two right lines, makes the external equal to the internal angle, placed oppoſite, and at the ſame parts, or makes the angles internally ſituated, and at the ſame parts equal to two right, thoſe right lines ſhall be parallel to each other.

The preceding theorem receiving the angles, not at the ſame parts, but ſituated within right lines, ſhews that the right lines are parallel among themſelves: but the preſent theorem propoſes the two remaining hypotheſes, of which one ſeparates the angles according to the particles *without* and *within*, but the other ſuppoſes them both within, and exhibits the ſame concluſion. But it may ſeem, perhaps, that the inſtitutor of the Elements has inconveniently diſtributed the theorems. For it was neceſſary either to receive three hypotheſes in a divided manner, and to make three theorems; or to collect all into one theorem, as Æneas Hierapolites does, who wrote a compendium of the Elements; or willing to divide them into two, to make an orderly diviſion, and to aſſume the hypotheſes ſeparately, which contain equal angles, and ſeparately that in which the angles are equal to two right. But in the preſent propoſitions, in one theorem he ſuppoſes the alternate angles equal, but in the other, the external to the internal, and the internal angles ſituated at the ſame parts equal to two right. What then is the cauſe of this diviſion? Does he regard the equality of the angles to each other, or to two right, and on this account does not ſeparate the propoſed theorems from each other; or does he reſpect the angles being received at the ſame, or not at the ſame parts? For the preceding theorem does not reſpect angles at the ſame parts, ſince ſuch as theſe are alternate: but the

the preſent regards ſuch as are ſituated at the ſame parts, as is perſpicuous from the propoſition. But how the inſtitutor of the Elements ſhews, that from the internal angles being equal to two right, the right lines are parallel, appears from his writings on this ſubject. Ptolemy, however, in the theorems in which he propoſes to demonſtrate that right lines produced from angles leſs than two right, coincide at the ſame parts, in which the angles leſs than two right are ſituated, ſhewing before all his theorems, that from the internal angles being equal to two right, the right lines are parallel, proves it in the following manner. Let there be two right lines *a b*, *c d*,



and let a certain right line *e g f h*, ſo cut them, that it may make the angles *b f g*, and *f g d*, equal to two right, I ſay that thoſe right lines are parallel, that is, will never coincide. For if it be poſſible, let them coincide while the right lines *b f*, *g d*, are produced in the point *k*. Becauſe, therefore, the right line *e f*, ſtands upon the right line *a b*, it makes the angles *a f e*, *b f e*, equal to two right. In like manner becauſe *f g* ſtands upon *c d*, it makes the angles *c g f*, *d g f*, equal to two right. Hence, the four angles *b f e*, *a f e*, *c g f*, *d g f*, are equal to four right, two of which *b f g*, *f g d*, are ſuppoſed equal to two right. The remainders, therefore, *a f g*, *c g f*, are equal to two right. If then the right lines *f b*, *g d*, when produced, coincide, the internal angles being equal to two right, *f a*, and *g c*, alſo,

alſo, ſhall coincide when produced: for the angles *a f g*, *c g f*, are alſo equal to two right. Either therefore the right lines ſhall coincide in both parts, or in neither, ſince theſe, as well as the former, are equal to two right. Let the right lines then *f a*, *g c*, coincide in the point *l*. But if this be admitted two right lines *l a f k*, *l c g k*, will comprehend ſpace, which is impoſſible, It is not therefore poſſible, that the internal angles being equal to two right, the right lines can coincide. They are therefore parallel.

PROPOSITION XXIX. THEOREM XX.

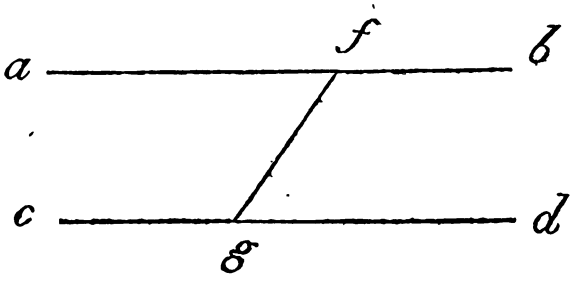
A right line falling upon parallel right lines, makes the alternate angles equal to each other; and the external equal to the internal angle, oppoſitely ſituated, and at the ſame parts; and the internal angles at the ſame parts equal to two right.

The preſent theorem is converted in both the preceding. For that which is *the object of inveſtigation*, in each of them, forms the hypotheſis: but what are *data* in the preceding, he propoſes to ſhew in the preſent. And this difference of converſe theorems is not to be paſſed over in ſilence, I mean that every thing which is converted, is either converted as one to one, as the ſixth propoſition to the fifth; or as one to a many, as the preſent to the preceding; or as many to one, as will ſhortly be manifeſt *. But in the preſent theorem, the inſtitutor of the Elements firſt employs the petition, which ſays: *If a right line falling upon two right lines, makes the angles ſituated internally, and at the ſame parts leſs than two right, thoſe right lines whilſt they are infinitely produced, will coincide at thoſe parts in which the angles leſs than two right are ſituated.* But in our expoſition of things prior to theorems †, we have aſſerted, that this petition is not allowed by all to be indemonſtrably evident. For how can this be

* In the Comment on the 32d propoſition. † In book III. chap. I. and in Com. 3.

the

be the caſe when its converſe is delivered among the theorems as demonſtrable? For the theorem which ſays that the two internal angles of every triangle are leſs than two right, is the converſe of this petition. Beſides, the perpetual inclination of right lines, more and more, while they are produced, is not a certain ſign of coincidence, becauſe other lines are found perpetually inclining, and never coinciding, as we have already obſerved. Formerly, therefore, ſome, when they had pre-ordained this as a theorem, conſidered that which is aſſumed by the inſtitutor of the Elements as a petition, to be worthy of demonſtration. But this ſeems to be ſhewn by Ptolemy himſelf, in a book entitled: *That right lines which are produced from leſs than two right angles, coincide.* And this he proves by pre-aſſuming many things, which as far as to the preſent theorem, are already demonſtrated by the elementary inſtitutor; and he ſuppoſes that all are true (leſt we ſhould alſo ſuperadd another confuſion) and that this, as a ſmall aſſumption, may be exhibited from the preceding. But this alſo is one of the things previouſly exhibited, which ſays, *that the right lines produced from two angles equal to two right, will never coincide.* I ſay, therefore, that the converſe alſo is true, which ſays, *that right lines being parallel, if they are cut by one right line, the angles ſituated internally, and at the ſame parts, ſhall be equal to two right angles.* For it is neceſſary that a line cutting parallels, ſhould either make the angles internally ſituated, and towards the ſame parts, equal to two right, or leſs, or greater than two right. Let the lines then, *a b*, *c d*, be parallel, and let the right line, *g f*,

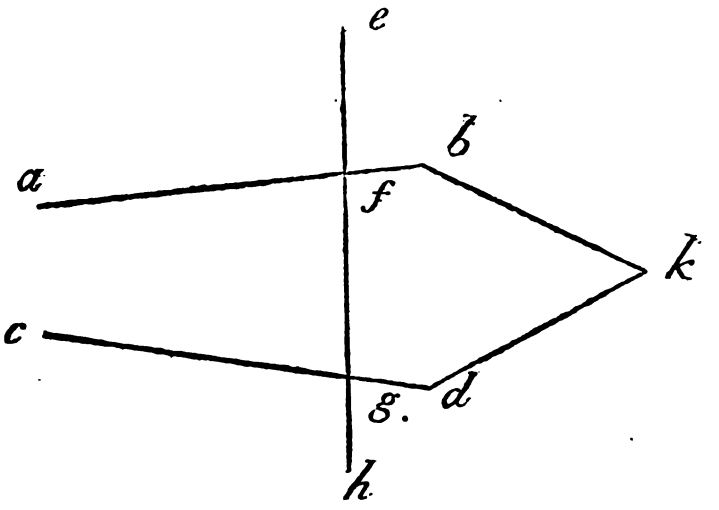


fall upon them, I ſay that it will not make the angles internal, and

at the ſame parts greater than two right. For if the angles *a f g*, *c g f*, are greater than two right, the remainders *b f g*, *d g f*, are leſs than two right. But the ſame are alſo greater than two right. For *a f*, and *c g*, are not more parallel than *f b*, and *g d*. Hence, if the line which falls upon *a f*, *c g*, makes the internal angles greater than two right, that alſo which falls upon *f b*, *g d*, will make the internal greater than two right. But they are alſo leſs than two right (ſince the four, *a f g*, *c g f*, *b f g*, *d g f*, are equal to four right) which is impoſſible. In like manner we may plainly ſhew, that the right line which falls upon parallels, does not make the angles internal, and at the ſame parts, leſs than two right. But if it makes them neither greater nor leſs than two right, it remains that the incident line muſt make the angles internal, and at the ſame parts equal to two right. This then being previouſly ſhewn, the thing propoſed, is doubtleſs demonſtrated. For I ſay, that if a right line falling upon two right lines, makes the angles ſituated internally, and at the ſame parts, leſs than two right, if thoſe right lines are produced they will coincide at thoſe parts in which the angles leſs than two right are ſituated. For let them not coincide. But if they are non-coincident at thoſe parts in which the angles leſs than two right are ſituated, much more will they be non-coincident at the other parts, in which the angles greater than two right are ſituated. Hence, the right lines will be non-coincident at both parts; and if this be true, they will be parallel. But it was ſhewn that the right line which falls on parallels, makes the angles internal and at the ſame parts equal to two right. The ſame, therefore, are both equal to, and leſs than two right, which is impoſſible.

Ptolemy having previouſly ſhewn this, and proceeding to the thing propoſed, wiſhes to add ſomething more accurate, and to ſhew that if a right line falling upon two right lines, makes the angles internal, and at the ſame parts, leſs than two right, the lines are not only coincident as has been ſhewn, but likewiſe that their coincidence takes place at thoſe parts, in which the angles leſs than two right, and not at thoſe in which the angles greater than two right are ſitu-

ated. For let there be two right lines *a b*, *c d*, and let a right line

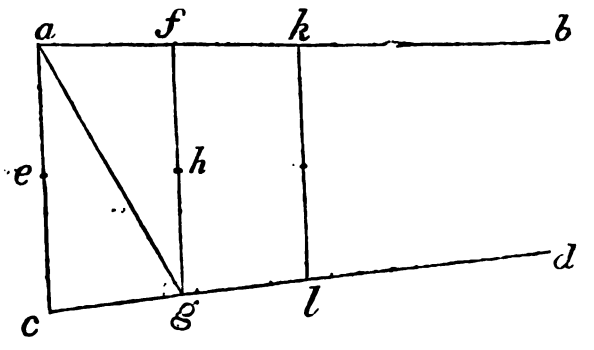


e f g h, falling upon them make the angles *a f g*, and *c g f*, leſs than two right. The remainders, therefore, are greater than two right; and thus it is ſhewn that the right lines coincide. But if they coincide, they will either coincide at the points *a* and *c*, or at the points *b* and *d*. Let them coincide at the points *b* and *d* in the point *k*. Becauſe, therefore, the angles *a f g*, and *c g f*, are leſs than two right, but the angles *a f g*, *b f g*, are equal to two right, by taking away the common angle *a f g*, the angle *c g f*, will be leſs than the angle *b f g*. The external angle, therefore, of the triangle *g f k*, is leſs than the internal and oppoſite angle, which is impoſſible. Hence then, they do not coincide at theſe parts. But they do coincide; and conſequently they will be coincident at the other parts, in which the angles leſs than two right are ſituated. And thus far Ptolemy.

But it is neceſſary to ſcrutinize this demonſtration, leſt perhaps there ſhould be any perverſe and captious reaſoning in the aſſumed hypotheſes, in thoſe, I ſay, in which he affirms, that a right line cutting non-coincident right lines, by forming four internal angles, forms the angles at the ſame parts on each ſide, either equal to two right, or greater, or leſs than two right. For the diviſion is not per-

fect; ſince nothing hinders our calling thoſe lines non-coincident, which are produced from angles leſs than two right, denominating, indeed, the two angles at the ſame parts, greater than two right, but the two at the remaining parts leſs than two right and not admitting in theſe, one and the ſame proportion. But the diviſion being imperfect, the thing propoſed is by no means demonſtrated. Beſides this, alſo, is not to be paſſed over in ſilence againſt his demonſtration, that he does not eſſentially ſhew that which is impoſſible. For it is not becauſe a certain right line cutting parallels, makes the angles at the ſame parts on each ſide, greater or leſs than two right, that an abſurdity on this account follows theſe hypotheſes. Nevertheleſs, becauſe the four angles within the lines which are cut, are equal to four right, on this account each of theſe hypotheſes is impoſſible; ſince, if parallel right lines are not aſſumed, yet, when the ſame hypotheſes are aſſumed, the ſame conſequences will be the reſult. And ſuch are our animadverſions againſt the demonſtration of Ptolemy: for the imbecility of his demonſtration appears from what has been ſaid.

Let us now conſider thoſe, who ſay it is impoſſible that lines produced from angles leſs than two right, ſhould coincide. For when they have aſſumed two right lines *a b*, *c d*, and a right line *a c*, fall-



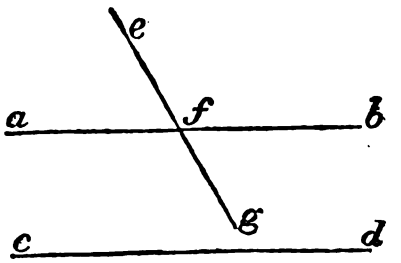
ing upon them, and making the two internal angles leſs than two right, they ſay it is poſſible that the right lines *a b*, *c d*, may be ſhewn to be non-coincident. For let *a c* be biſected in *e*, and cut off from *a b*, a part *a f*, equal to *a e*: but from *c d*, a part *c g*, equal to

e c.

e c. It is manifeſt, therefore, that the right lines *a f*, *c g*, will not coincide in the points *f* and *g*. For if they coincide, theſe two in the triangle will be equal to *a c*, which is impoſſible. Let again *f g* be connected, and biſected in *h*, and cut off equal parts. Theſe, therefore, will not coincide on the ſame account, and this will be the caſe, in infinitum, by connecting the non-coincident points, and biſecting the connecting line, and by cutting from the right lines, lines equal to the halves of the connecting lines; for by this means they ſay, that the right lines *a b*, *c d*, will never coincide. To ſuch as theſe we reply, that they indeed affirm that which is true, but not ſo much as they imagine. For it is not true that the point of coincidence is ſimply determined by this means, nor is it true that the lines by no means coincide. Thus, when the angles *b a c*, and *d c a*, are determined, the lines *a b*, and *c d*, will not coincide in the points *f* and *g*, yet nothing hinders their coinciding in the points *k* and *l*, though *f k* and *g l* ſhould be equal to *f h*, and *h g*. For when *a k* and *c l* coincide, the angles *k f h*, *l g k*, will not remain the ſame, and a certain part of the right line *f g*, will be left external to the right lines *a k* and *c l*; and ſo again the two lines *f l*, and *g l*, are ſo much greater than the baſe, as the interior parts of the right line *f g*, which they intercept. Beſides this alſo is to be ſaid to ſuch as affirm the non-coincidence of lines extended from angles leſs than two right, that they deſtroy what they are unwilling to deſtroy. For let the ſame deſcription be given. Whether, therefore, is it poſſible, or impoſſible to connect a right line from the point *a*, to the point *g*? For if it be impoſſible, beſides deſtroying the fifth petition, they alſo deſtroy that which ſays, *that a right line may be drawn from every point to every point:* but if poſſible let it be connected. Becauſe, therefore, the angles *f a c*, *g c a*, are leſs than two right, it is manifeſt that the angles alſo, *g a c*, *g c a*, are much leſs than two right. The right lines, therefore, *a g*, *c g*, will coincide in the point *g*, being produced from angles leſs than two right. Hence, it is not poſſible to affirm indeterminately, that lines produced from angles leſs than two right, will not coincide. It is however manifeſt, that ſome right lines

lines produced from angles leſs than two right will coincide, though the preſent diſcourſe ſeems to inveſtigate this in all. For it may be ſaid, that when the diminution of two right lines is indefinite, the lines will remain non-coincident according to ſuch a diminution: but will coincide according to another leſs than this. But he who deſires to behold a demonſtration of this affair, muſt be informed that it is requiſite for this purpoſe to pre-aſſume ſuch an axiom as is employed by Ariſtotle * in proving the world to be finite, viz. *If from one point two right lines forming an angle are produced in infinitum, the diſtance of the lines infinitely produced will exceed every finite magnitude.* For he ſhews that when infinite right lines are produced from the centre to the circumference, the interval alſo contained between them will be infinite: ſince, if it be only finite, it is poſſible that the diſtance may be increaſed; and on this account the right lines will not be infinite. Right lines, therefore, infinitely produced, are diſtant from each other by an interval greater than every finite magnitude.

This being pre-ſuppoſed, I ſay that if any right line cuts the one of parallel right lines, it will alſo cut the other. For let *a b* and

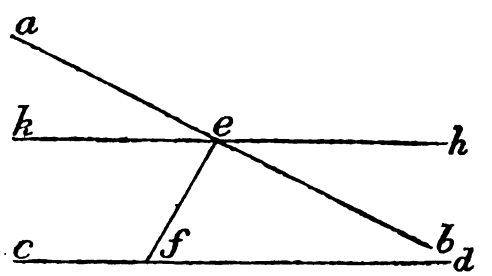


c d be parallels, and let the right line *e f g* cut *a b*. I ſay that it will alſo cut *c d*. For ſince there are two right lines, which are produced infinitely from the point *f*, viz. *b f*, and *f g*, they ſhall have a diſtance greater than every magnitude. Hence, they ſhall exceed the quantity of the interval contained between the parallel lines. Since, therefore, their diſtance from each other is greater than that of the parallels, *f g* ſhall cut *c d*. But this being demonſtrated, we can exhibit the thing propoſed in a conſequent order. For let there be

* In lib. i. de Cælo, tex. 35.

two

two right lines *a b*, *c d*, and let a right line *e f*, fall upon them, making the angles *b e f*, *d f e*, leſs than two right. I ſay that the right



lines will coincide in thoſe parts, in which the angles leſs than two right are ſituated. For ſince the angles *b e f*, *d f e*, are leſs than two right, let the angle *h e b*, be equal to the exceſs of two right angles above theſe angles, and produce *h e*, to the point *k*. Becauſe, therefore, a right line *e f*, falls upon the right lines *h k*, *c d*, and makes the internal angles equal to two right, viz. the angles *h e f*, *d f e*, the right lines *h k*, *c d*, are parallel; and *a b* cuts *k h*. It will therefore alſo cut *c d*, by the aſſumption previouſly exhibited. Hence, the right lines *a b*, *c d*, will coincide in thoſe parts, in which the angles leſs than two right are ſituated. And on this account the thing propoſed, is evinced *.

PROPOSITION XXX. THEOREM XXI.

Right lines parallel to the ſame right line, are parallel to each other.

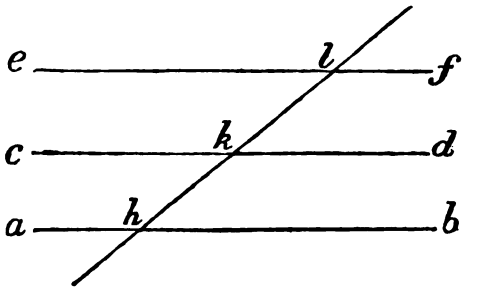
The geometrician in theſe diſcourſes which are converſant with relation, is accuſtomed to ſhew identity permeating through all quantities, having the ſame relation to the *ſame*. Thus among the axioms alſo he ſays, *things equal to the ſame, are equal to each other*: and in the following books he ſays, *things ſimilar to the ſame, are ſimilar to each other*, and *things having the ſame proportion to the ſame, have the*

* Clavius and Simſon have employed a multitude of propoſitions in the demonſtration of this petition; but their demonſtrations fall far ſhort in my opinion of the elegance of the preſent.

ſame

ſame proportion to each other. After this manner, therefore, he now alſo demonſtrates, *that right lines parallel to the ſame, are parallel to each other.* But it happens that this is not true in all reſpects. For quantities double of the ſame, are not alſo double of each other: nor are thoſe which are ſeſquialter of the ſame, ſeſquialter likewiſe to each other, but it appears to take place in thoſe alone, which are univocally converted in equality, ſimilitude, identity, and parallel poſition. For that which is parallel to a parallel, is itſelf alſo parallel. As that which is equal to an equal, is itſelf equal; and that which is ſimilar to a ſimilar, is itſelf ſimilar. For the relation of parallels to each other, is ſimilitude of poſition. He affirms, therefore, and ſhews, in the preſent theorem, that lines parallel to the ſame, are entirely ſo related, that they are alſo parallel to each other, And he alſo exhibits the parallels with an external poſition, and likewiſe a medium, to which theſe have a ſimilar relation, that what he aſſerts may become manifeſt from a common conception. For if they coincide with each other on either ſide, and coincide with that which is ſituated in the middle, they will no longer be parallel to it.

But it is poſſible that he who changes the poſition may ſhew the ſame thing, and by the ſame methods which the geometrician employs in exhibiting his propoſition. For inſtance, he aſſumes both *c d*, and *e f*, parallel to *a b*, both of them ſituated above, and *a b*



being beneath, and not in the middle. For a right line *h k l*, falling upon them, makes each of the angles *h k d*, *k l f*, equal to *a h k*, becauſe they are alternate; and on this account it makes the angles *h k d*, *k l f*, equal to each other. The right lines, therefore, *c d*, *e f*, are

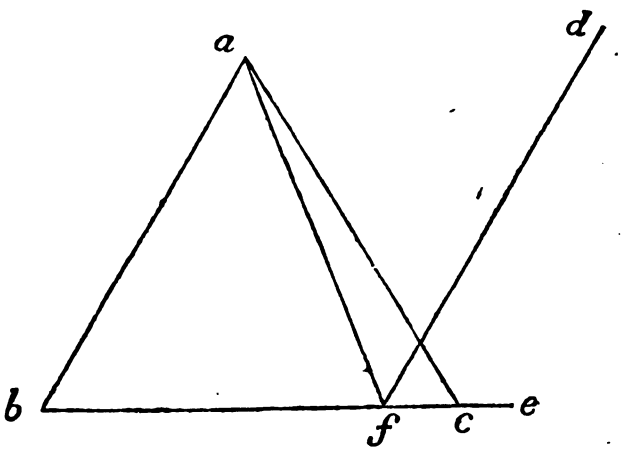
other, beſides the given line, can be that which is drawn parallel through the point. Since, therefore, the point and the right line is divided, it indicates that the point is to be received external to the right line, which he manifeſts in a perpendicular by addition, commanding, *upon a given infinite right line, and from a given point which is not in it, to let fall a perpendicular*. One thing, therefore, which is common to both theſe problems, is, the external poſition of the point: but the other, that from the ſame point two perpendiculars cannot be let fall to the ſame right line, and that through the ſame point, two lines cannot be drawn parallel to the ſame right line. Hence, the inſtitutor of the Elements commands in the ſingular number *to draw a right line*, in the former problem, *a perpendicular*, but in the preſent *a parallel*. And, *that* indeed, has been ſhewn, but *this* is manifeſt, from what is previouſly demonſtrated. For if through the ſame point two parallels are drawn to the ſame right line, they would be parallel to each other, and coincide in the given point, which is impoſſible. But it is requiſite to obſerve the differences of theſe two propoſitions, *from a given point*, and *through a given point*. For ſometimes the point is the beginning of the right line which is drawn, and on this account the deduction is made from it: but ſometimes the point is in the drawn right line, and on this account the drawing is made through the point. For the partic'e *through*, was not aſſerted, becauſe the right line cuts a given point, but becauſe it coincides with it, and terminates its own interval, in reſpect of that right line, by the diſtance of the point and the right line. Since as much as the given point is diſtant from the given right line, ſo much alſo is the interval of the parallel between itſelf and the right line.

PROPOSITION XXXII. THEOREM XXII.

One ſide of every triangle being produced, the external angle of the triangle is equal to the two internal and oppoſite angles; and the three internal angles of a triangle are equal to two right angles.

As

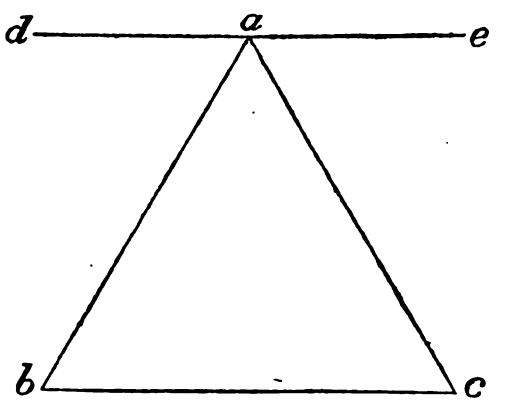
As much as was deficient in the ſixteenth and ſeventeenth theorem, ſo much Euclid adds in the preſent. For we not only learn by this theorem that the external angle of a triangle is greater than either of the internal and oppoſite angles, but likewiſe how much it is greater; ſince as it is equal to both, it is greater than either of the remaining angles. Nor do we alone know from this theorem, that any two angles of a triangle, are leſs than two right, but by how much they are leſs: for they are deficient by the remaining third. The former, therefore, were more indefinite theorems: but this brings with it, on both ſides, a boundary to ſcience. We muſt not, however, call them on this account ſuperfluous: for they are of the greateſt utility in many demonſtrations; and the preſent is proved by their aſſiſtance. And beſides this, it is neceſſary that our knowledge, proceeding from the imperfect to the perfect, ſhould paſs from indeterminate apprehenſions, to determinate and certain propoſitions. But the inſtitutor of the Elements, by drawing a parallel externally, exhibits each of the objects of inveſtigation. It is, however, poſſible that the ſame thing may be ſhewn without drawing the parallel externally; and this, by only changing the order of the things exhibited. For Euclid firſt ſhews, that the external angle is equal to the internal and oppoſite, and from this he proves the remainder. But we ſhall demonſtrate this by a contrary mode of proceeding. Let there be then a triangle *a b c*, and let the ſide *b c* be produced to the point *e*.



Then

Then take a point *f* in *b c*, and connect *a f*, and through the point *f*, let *f d* be drawn parallel to *a b*. Becauſe, therefore, *f d* is parallel to *a b*, and a right line *a f*, falls upon theſe parallels, as alſo a right line *b c*, hence, the alternate angles are equal, and the external is equal to the internal angle. The whole, therefore, *a f c*, is equal to *f a b*, added to *a b f*. In like manner we may ſhew by drawing a parallel, that the angle *a f b*, is equal to the angles *f a c*, *a c f*. The two, therefore, *a f b*, *a f c*, are equal to the three angles of the triangle: and hence, the three angles of a triangle are equal to two right, viz. to *a f b*, added to *a f c*. But *a c f*, *a c e*, are alſo equal to two right ang'es. Let, therefore, the common angle *a c f*, be taken away; and then the remaining external angle will be equal to the internal and oppoſite angles. And after this manner may the preſent theorem be exhibited.

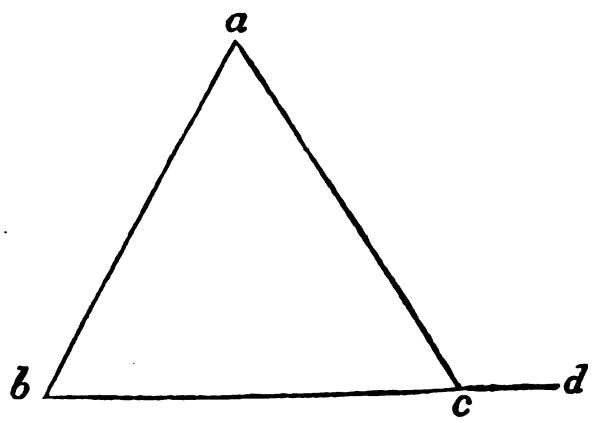
But Eudemus, the Peripatetic, aſcribes the invention of this theorem to the Pythagoreans, I mean that every triangle has its internal angles equal to two right, and ſays that they demonſtrate it in the following manner. Let there be a triangle *a b c*, and let there be



drawn through the point *a*, a line *d e*, parallel to *b c*. Becauſe, therefore, the right lines *d e*, *b c*, are parallel, the alternate angles are equal. Hence, the angle *d a b*, is equal to the angle *a b c*; and the angle *e a c*, to the angle *a c b*. Let the common angle *b a c*, be added. The angles, therefore, *d a b*, *b a c*, *c a e*, that is, the angles *d a b*, *b a e*, and that is two right, are equal to the three angles of the triangle. And ſuch is the demonſtration of the Pythagoreans.

But

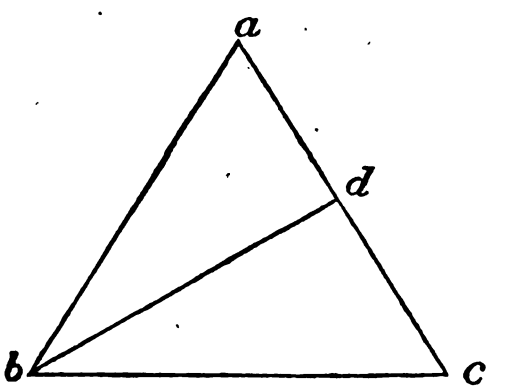
But it is here requiſite to deliver ſuch theorems as are converſe to the preſent theorem of the elementary inſtitutor. For two are converted to one, ſince this is a compoſite, both, according to *the object of enquiry*, and the *datum:* for the *datum* is two-fold, viz. the triangle, and one of its ſides produced; and in like manner *the object of enquiry*. For one part ſays, that the external angle is equal to the internal and oppoſite angles: but the other, that the three internal angles are equal to two right. If therefore, we ſuppoſe that the external is equal to the internal and oppoſite angles, we may ſhew that one ſide is produced, and that the right line externally ſituated, is in a direct poſition with one of the ſides of the triangle: but if the three internal angles are equal to two right, we may ſhew that the given figure is a triangle. And ſo *the whole object of enquiry*, is converſe to *the whole datum*. Let there be then a triangle *a b c*, and let the external angle *a c d*, be equal to the internal and oppoſite angles, I ſay that the ſide *b c*, is produced to the point *d*, and that *b c d*, is one



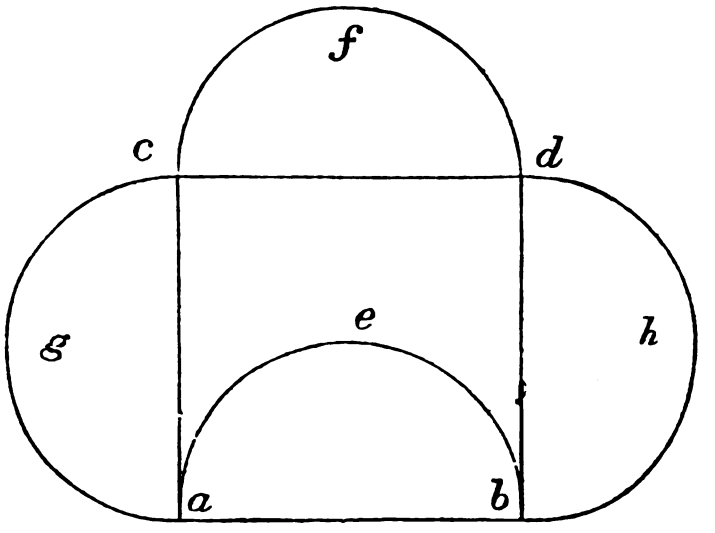
right line. For ſince the angle *a c d*, is equal to the internal and oppoſite angles, let the common angle *a c b* be added. The angles, therefore, *a c d*, *a c b*, are equal to the three angles of the triangle *a b c*. But the three angles of the triangle *a b c*, are equal to two right.

right. And hence, the angles *a c d*, *a c b*, are equal to two right. But if two right lines being conſequently placed, and not at the ſame parts to any right line, and at a point in it, make the ſucceſſive angles equal to two right, thoſe right lines ſhall be in a direct poſition to each other. The right line, therefore, *b c*, is in a direct poſition to *c d*.

Let there be again, a certain right lined figure *a b c*, having three angles alone equal to two right, viz. *a*, *b*, and *c*, I ſay that the figure



is a triangle, and that *a c*, is one right line. For let the right line *b d* be connected. Becauſe, therefore, the three angles of each of the triangles *a b d*, *b d c*, are equal to two right, of which the angles of the figure *a b c*, are equal to two right, the remainders *a d b*, *c d b*, are equal to two right, and they are placed about a right line *b d*. Hence *d c*, is in the ſame direction with *d a*; and ſo the ſide *a c*, is one right line. In like manner we may ſhew that the ſide *a b*, and the ſide *b c*, are each of them one right line. And conſequently the figure *a b c*, is a triangle. If then a figure having internal angles equal to two right, is right-lined, it is perfectly a triangle: but it does not follow that a figure is a triangle merely becauſe it has internal angles equal to two right. For you will find a figure conſtructed from circumferences, having its internal angles equal to two right. For let there be a quadrangle *a b c d*, and upon the ſide *a b*, let a ſemicircle *a e b*, be internally deſcribed: but upon the other ſides,



ſides, let the ſemicircles be externally deſcribed, as *f*, *g*, *h*. The figure, therefore, which is comprehended by the ſemicircles, has two angles *g a e*, *e b h*, equal to two right, viz. to *c a b*, *d b a*. For this was ſhewn in the petitions *, and theſe angles alone are in this figure. There is, therefore, a certain figure not a triangle, which has its internal angles equal to two right. And thus much may ſuffice concerning converſe theorems.

But as we have diſcovered that the three angles of every triangle are equal to two right, we ought to determine a certain method, by which we may find how many angles, of all other multangles, are equal to ſo many right angles; as for inſtance, of a quadrangle, quinquangle, and of all conſequent multilateral figures. In the firſt place, therefore, it muſt be known, that every right-lined figure may be reſolved into triangles, ſince a triangle is the principle of the conſtitution of all things, which Plato alſo aſſerts in the Timæus, when he teaches us that the rectitude of a plane baſis is compoſed from triangles. But every figure is reſolved into triangles leſs in number, by the binary, than its proper ſides. If a quadrilateral figure, into two triangles: if a figure of five ſides, into three: if of ſix ſides, into

* In Lib. III. Com. 2:

four;

four. For two triangles compoſed together, immediately form a quadrilateral figure. But the number of compoſite triangles by which the firſt conſtituted figure differs from its ſides, is the meaſure of difference to the reſt. Hence, every multilateral figure poſſeſſes more ſides, by the binary, than the triangles into which it may be diſſolved. But every triangle has been ſhewn to contain angles equal to two right.. And hence, if the number of the angles be made double to that of the compoſite triangles, it will afford a multitude of right angles, to which the angles of every multangle will be equal. On this account every quadrilateral figure has angles equal to four right, ſince it is compoſed from two triangles : but every figure of five ſides has angles equal to ſix right ; and after the ſame manner of the reſt in a conſequent order. This one thing, therefore, is to be aſſumed from the preſent theorem, concerning all multangular and right-lined figures.

But there is another conſequent to this, which is ſummarily as follows. In every right-lined figure, each of its ſides being at the ſame time produced, the angles externally conſtituted are equal to four right. For it is requiſite, indeed, that the ſucceſſive right angles ſhould be double of the multitude of the ſides; becauſe, in each they are conſtituted equal to two right. But the right angles equal to the internal angles being taken away, the remaining external angles are equal to four right. As for example, if the figure is a triangle, while every one of its ſides is produced, at the ſame time internal and external angles are conſtructed equal to ſix right angles, of which the internal angles are equal to two right, but the remaining external angles to four right. But if the figure be quadrilateral, the angles are in all eight, ſince they are double of the ſides, of which the internal are equal to four right, and the external to the four remaining angles, and the conſequences will be ſimilar in infinitum. But after theſe obſervations we may alſo collect, that by this theorem every angle of an equilateral triangle is two thirds of a right angle : but that an iſoſceles triangle, when the vertical angle is right, has each of its remaining angles the half of one right, as a ſemiquadrangle;

drangle; and that a ſcalene triangle, when it is the half of an equilateral triangle, formed by a perpendicular drawn from any angle to its oppoſite ſide, has one angle right, but the other (which likewiſe belonged to the equilateral triangle) two thirds of a right angle, and the remainder by a neceſſary conſequence, a third part of a right angle. For it is requiſite that the three ſhould be equal to two right. But I do not conceive that theſe remarks are foreign from our purpoſe, ſince they prepare us for the doctrine of Timæus. This alſo muſt be obſerved, that the poſſeſſion of internal angles equal to two right, is inherent eſſentially, and anſwering to the predication *according to what*, in a triangle. And on this account, Ariſtotle in his Treatiſe on Demonſtration *, employs this as an example, conſidering it *according to what*. As therefore *to be terminated*, is eſſentially and primarily inherent in every figure, ſo likewiſe the poſſeſſion of internal angles equal to two right, is eſſentially and primarily inherent in a triangle, though not in every figure. And the truth of this theorem ſeems to preſent itſelf to us according to common conceptions. For if we conceive a right line, and two right lines ſtanding on its extremities, and inclining to each other, ſo as to form a triangle, we ſhall find that in proportion to their inclination they diminiſh the right angles, which they form with the right line. Hence, obtaining as much angular quantity, by their inclination at the vertex, as they take away from the baſe, they neceſſarily form three angles equal to two right.

PROPOSITION XXXIII. THEOREM XXIII.

The right lines which join equal and parallel right lines at the ſame parts, are themſelves alſo equal and parallel.

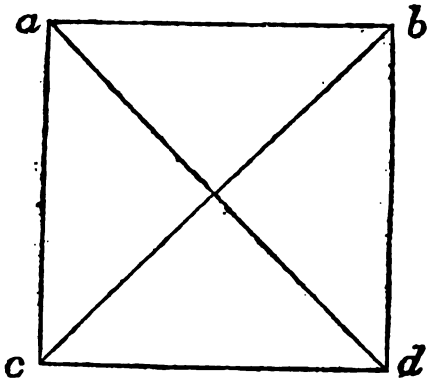
The preſent theorem is, as it were, the confine of the conſideration of parallels and parallelograms: for it ſeems to declare a certain ſymptom of parallel right lines, and delivers the latent origin of parallelo-

* i. e. In his laſt analytics. See the ſecond ſection of the Diſſertation, Vol. I. of this work.

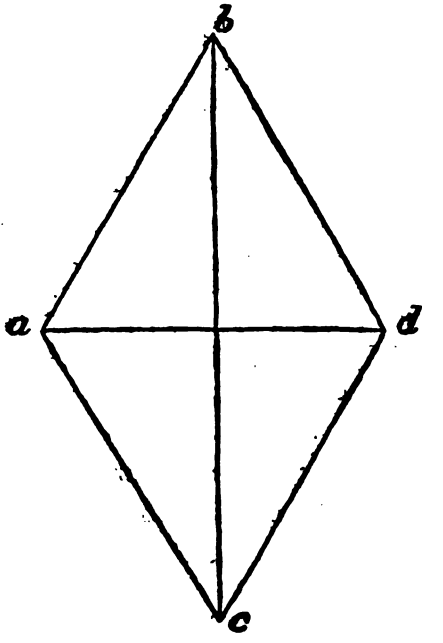
grams. For a parallelogram is formed, as well from thoſe equal and parallel right lines, which are drawn in the beginning, as from thoſe which conjoin them, and which are in like manner ſhewn to be equal and parallel. Hence, the propoſition which immediately follows the preſent, contemplates the properties eſſentially inherent in theſe ſpaces, in a parallelogram as it were already conſtructed. And theſe things are indeed manifeſt. But it is requiſite to conſider the diligence which this propoſition contains. In the firſt place, indeed, that it is not ſufficient, that the lines which are conjoined ſhould be equal: for the lines which connect equals, are not entirely equal, unleſs they are alſo parallel. For a triangle being iſoſceles, and a point being aſſumed in one of the equal ſides, and through this a line being drawn parallel to the baſis, equal lines ſhall indeed conjoin parallels to the baſis, and the baſis itſelf, yet theſe parallels ſhall not alſo be equal; and the ſides will not be parallel, becauſe they coincide at the vertex of the triangle.

In the ſecond place, he conſiders that the ſubject right lines being parallel, is not ſufficient to conſtitute the equality of the lines which conjoin them. For this is evident from the preceding conſtruction of the iſoſceles triangle; ſince the drawn right line, and the baſis, are parallel, and yet the lines which connect them are not parallel, becauſe they are parts of the ſides of the iſoſceles triangle. The parallel poſition, therefore, of the lines which are conjoined, is requiſite to the equality of the connecting lines: but the equality of the latter is neceſſary to the parallel poſition of the former. On this account the inſtitutor of the Elements aſſumes each, in thoſe which are conjoined, for the purpoſe of exhibiting, that the connecting lines are as well equal, as parallel to one another. But in the third place, he intimates, that right lines being ſuppoſed both equal and parallel, their connecting lines will not be univerſally equal and parallel. For unleſs we make the conjunctions at the ſame parts as in this caſe, the connecting lines cannot be parallel (ſince they will cut each other), ſo they may be ſometimes equal, and ſometimes not. For if you aſſume a quadrangle, or oblong, as *a b c d*, and connect

the



the right lines *a d*, *b c*, the diameters are indeed equal, but not parallel, and they conjoin the equal and parallel oppoſite ſides of the aforeſaid ſpaces. But if the figure be a Rhombus, or a Rhomboides, the diameters of theſe, are not only non-parallels, but alſo unequal. For ſince *a b*, is equal to *c d*, but *a c* is common, and the angle *b a c*,



is unequal to the angle *a c d*, the baſes alſo are unequal. The inſti-

tutor of the Elements, therefore, very properly conſidered, that the lines which conjoin equal and parallel lines, ought to make the conjunction at the ſame parts, leſt *a c*, *b d*, being ſuppoſed equal and parallel, we ſhould aſſume *a d*, *b c*, as the connecting lines, and not *a b*, and *c d*. For he ſhews that theſe latter are equal and parallel: but that the former are, indeed, never parallel, but equal, as we have obſerved in a quadrangle and oblong, but never in a rhombus and rhomboides; as the oppoſite to this has been proved to be true, becauſe they are unequal, on account of the inequality of the angles internal, and ſituated at the ſame parts.

PROPOSITION XXXIV. THEOREM XXIV.

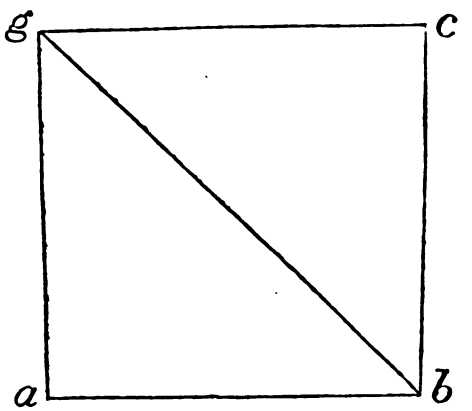
The oppoſite ſides and angles of parallelogrammic ſpaces are equal to each other an they are biſected by the diameter.

As from the preceding theorem, he had aſſumed a parallelogram already conſtructed, he now contemplates its primarily inherent properties, and ſuch things as expreſs its peculiar conſtitution. But theſe are the following: *that the ſides and angles which are oppoſite, are equal, and that the ſpaces themſelves are biſected by the diameter.* For that part of the propoſition relates to the ſpaces, which ſays: *and they are biſected by the diameter.* So that the area itſelf, is that whole which is biſected, and not the angles through which the diameter paſſes. Theſe three properties then, are eſſentially inherent in parallelograms, the equality of the oppoſite ſides and angles, and the biſection of the ſpaces by the diameter. And you may obſerve that the properties of parallelograms are inveſtigated from all theſe, viz. from the ſides, from the angles, and from the areas. But as there are four kinds of parallelograms, which Euclid defines in the hypotheſes *, viz. a quadrangle, oblong, rhombus, and rhomboides, it deſerves to be re-

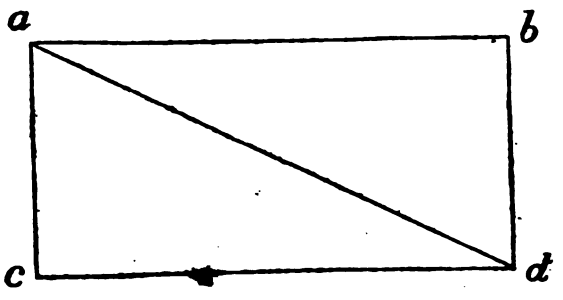
* In the definitions which are with great propriety called by the Platoniſts hypotheſes, becauſe their evidence is admitted without proof, which at the ſame time they are capable of receiving from the firſt philoſophy.

marked,

marked, that if we divide theſe four into rectangles, and non-rectangles, we ſhall find, that not only the diameters biſect theſe ſpaces, but that the diameters themſelves, are, indeed, in rectangles equal, but in non-rectangles unequal, as was obſerved in the preceding theorem. But if we divide them into equilateral, and non-equilateral, we ſhall again find that in the equilateral figures, not only the ſpaces are biſected by the diameters, but likewiſe the angles through which they are drawn: but in non-equilaterals this is never the caſe. For in a quadrangle, and a rhombus, the diameters biſect the angles, and not the ſpaces only: but in an oblong, and a rhomboides, they alone biſect the ſpaces. For let there be a quadrangle, or a rhombus, *g c a b*,



and a diameter *g b*. Becauſe, therefore, the ſides *g c*, *c b*, are equal to the ſides *g a*, *a b* (for they are equilateral), and the angles *g c b*, *g a b*, are equal (for they are oppoſite), and the baſis alſo is common, hence, all are equal to all; and on this account the angles *c g a*, *a b c*, are biſected. Again, let there be an oblong, or rhomboides



given. If, therefore, the angle *b a c*, and the angle *c d b*, is biſected by

by the diameter, but the angle *c a d*, is equal to the angle *a a b*, the angle alſo, *b a d*, will be equal to the angle *a d b*. Hence, the ſide alſo, *a b*, will be equal to the ſide *b d*. But they are unequal; and conſequently the angle *b a c*, is not biſected by the diameter, nor its equal the angle *c d b*. That I may therefore comprehend the whole in a few words, in a quadrangle the diameters are equal, on account of the rectitude of the angles, and the angles are biſected by the diameters, on account of the equality of the ſides, and the areas are biſected by the diagonal, on account of the common property of parallelograms: but in an oblong, the diameters are indeed equal, becauſe it is a rectangle, but the angles are not biſected by the diameters, becauſe it is not equilateral, though the diviſion of ſpaces into equal parts, is alſo inherent in this figure, ſo far as it is a parallelogram: but in a rhombus the diameters are unequal, becauſe it is not a rectangle, but the ſpaces are not only biſected by theſe, becauſe it is a parallelogram, but the angles alſo, becauſe it is equilateral; and in the remaining figure, i. e. a rhomboides, the diameters are unequal, becauſe it is not a rectangle, and the angles are cut by theſe into unequal parts, becauſe it is not equilateral, and the ſpaces alone ſituated at each part of the diagonals, are equal, becauſe it is a parallelogram. And thus much concerning obſervations of this kind, which exhibit the diverſity found in the four diviſions of parallelograms.

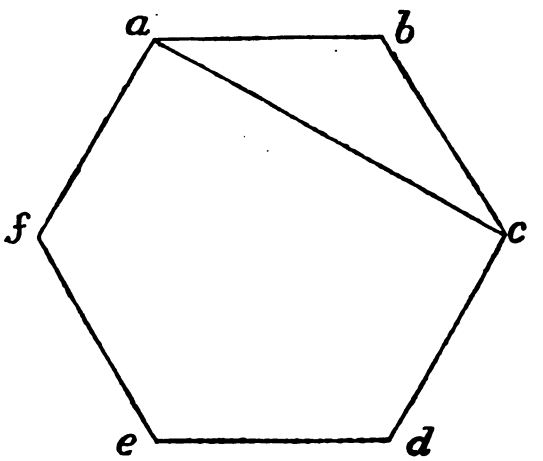
But we muſt not paſs over in ſilence, the artificial conſequence appearing in this theorem, that of theorems, ſome are univerſals, but others non-univerſals. But we ſhall ſpeak concerning each of theſe, when we divide *the object of inveſtigation*, which has, indeed, one part univerſal, but the other non-univerſal. For though every theorem may ſeem to be univerſal, and every thing exhibited by the elementary inſtitutor may appear to be of this kind (as in the preſent he may not only ſeem to aſſert, that in all parallelograms univerſally, the oppoſite ſides and angles are equal, but likewiſe that each is biſected by the diameter), yet we muſt ſay that ſome things are univerſally exhibited, but others not univerſally. For it is cuſtomary to call the *univerſal* which affirms the truth concerning every thing of which it is predicated, differently from *that univerſal*, comprehending all things in which

which the ſame ſymptom is inherent. Thus it is univerſal, that every iſoſceles triangle has three angles equal to two right, becauſe it is true of all iſoſceles triangles: and it is univerſal that every triangle has three angles equal to two right, becauſe it comprehends all things, in which this is eſſentially inherent. On which account we affirm that the poſſeſſion of three angles equal to two right, is to be primarily manifeſted of a triangle. According to this ſignification, therefore, of theorems, calling ſome univerſal, but others non-univerſal, we muſt affirm that the preſent theorem, has, indeed, one of its objects of inveſtigation univerſal, but the other non-univerſal. For the poſſeſſion of oppoſite ſides and angles that are equal, is a univerſal, ſince it is alone inherent in parallelograms: but that the diameter biſects the ſpace, is not univerſal, becauſe it does not comprehend all things in which this ſymptom is beheld; for this is inherent in a circle and ellipſis. And it appears, indeed, that primary conceptions of ſuch like concerns, are more particular, but that in their progreſs they comprehend the whole. For when the ancients had contemplated that a diameter biſects an ellipſis, circle, and parallelogram, they afterwards ſurveyed that which was common in theſe. But we are deceived (ſays Ariſtotle †) when a non-univerſal is exhibited as univerſal, becauſe that common ſomething in which the ſymptom is primarily inherent, is nameleſs. For we cannot ſay what that is, which is common to numbers and magnitudes, motions and ſounds; and it is likewiſe difficult to expreſs what is common to an ellipſis, circle, and parallelogram. For one of theſe figures is right-lined, but the other circular, and the third mixt; and on this account we conceive that he exhibits univerſally, who demonſtrates that a diameter biſects every parallelogram, becauſe we do not at the ſame time perceive that common ſomething, on account of which, this is true. This then in parallelograms, is not an univerſal of this kind, on account of the aforeſaid cauſe; but the propoſition is univerſal, which aſſerts, that every parallelogram has its oppoſite ſides and angles equal. For if any figure is ſuppoſed, having its oppoſite ſides and angles equal, it may

† In his laſt Analytics. See page 49, of the Diſſertation, Vol. I. of this work.

be ſhewn to bea parallelogram. Thus let ſuch a figure be *a b c d* *, and its diameter *a d*. Becauſe, therefore, the ſides *a b*, *b d*, are equal to the ſides *a c*, *c d*, and the angles comprehended by them are equal, and the baſe common, all will be equal to all. The angle, therefore, *b a d*, is equal to the angle *a d c*, and the angle *a d b*, to the angle *c a d*. Hence, *a b*, is parallel to *c d*, and *a c* to *b d*. And on this account the figure *a b c d*, is a parallelogram. And thus much may ſuffice for obſervations of this kind.

But the inſtitutor of the Elements ſeems to have compoſed the name of parallelograms, by taking an occaſion from the preceding theorem. For when he had ſhewn that right lines, which conjoin equal and parallel right lines at the ſame parts, were themſelves alſo equal and parallel, it is evident that he pronounces as well the oppoſite ſides which conjoin, as thoſe which are conjoined, to be parallel : but that he very properly calls the figure which is contained by parallels, a parallelogram, in the ſame manner as he denominates that which is comprehended by right lines rectilineal. And it is evident that the inſtitutor of the Elements places a parallelogram among quadrilateral figures. But it is worthy our obſervation and enquiry, whether every right-lined figure, which is compoſed from equal ſides, ſince it is equilateral and equiangular, is to be called a parallelogram. For a figure of this kind alſo, has its oppoſite ſides equal and parallel, as likewiſe the oppoſite angles equal. As for example, a ſexangle, and an octangle, and a decangle. Thus, if you conceive a ſexangle *a b c d e f*, and



con-

* See the laſt preceding figure.

connect a right line *a c*, you may ſhew that *a f* is parallel to *c d*. For the angle at the point *b*, is one right, and the third part of a right angle; and this is true of every angle of a ſexangle, ſince it is equiangular. Beſides the ſide *a b*, is equal to the ſide *b c*, for it is placed equilateral. Each of the angles, therefore, *b a c*, *b c a*, is a third part of a right angle. Hence, the angles *f a c*, *a c d*, are right angles. And on this account *a f*, is parallel to *c d*. In like manner we may ſhew that the other oppoſite ſides are parallel, and the ſame may be evinced in an octangle, and in the remaining figures of this kind. If, therefore, that is a parallelogram which is comprehended by parallels oppoſitely ſituated; a parallelogram will likewiſe ſubſiſt among non-quadrilateral figures. But it appears that with the inſtitutor of the Elements a parallelogram is quadrilateral. And this is particularly perſpicuous in that theorem, in which he ſays, *that a parallelogram which has the ſame baſe with a triangle, and is between the ſame parallels, is double of the triangle:* for this is alone true in quadrilateral figures.

PROPOSITION XXXV. THEOREM XXV.

Parallelograms which are upon the ſame baſe, and between the ſame parallels, are equal to each other.

As we have ſaid that of theorems, ſome are univerſal, but others particular, and as dividing theſe we have ſubjoined, that ſome are alſo ſimple, but others compoſite, and have ſhewn the nature of each, ſo according to another diſtinction, we aſſert that ſome of theſe are local, but others non-local. But I call thoſe local, to which the ſame ſymptom happens in a certain place; and I denominate the place of a line or a ſuperficies, that ſituation, which produces one and the ſame ſymptom. For of local theorems ſome are conſtructed in lines, but others in ſuperficies. And becauſe of lines, ſome are plane, but others ſolid, the plane being thoſe of which there is a ſimple conception in a plane, as of a right line: but the ſolid thoſe whoſe origin appears from a certain ſection of a ſolid figure, as of cylindric, ſpiric, and co-

nic lines, I ſhould ſay, that of the local theorems which are conſtructed in lines, ſome have a plane, but others a ſolid place. The preſent theorem, therefore, is both local, and local in lines, and a plane. For the whole ſpace which lies between the parallels, is the place of the parallelograms conſtructed upon the ſame baſe; and which the inſtitutor of the Elements ſhews to be equal to each other. But of thoſe local theorems which are called ſolid, let the following be an example*. *The parallelograms which are inſcribed within the aſymptotes and the hyperbola, are equal*: for it is evident that the hyperbola is a ſolid line.

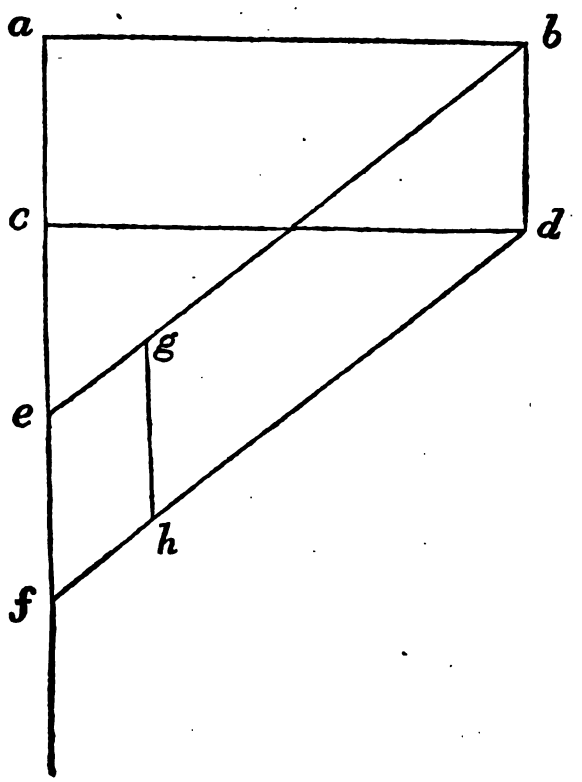
But Chryſippus, as we are informed by Geminus, aſſimilates theorems of this kind to ideas. For as ideas comprehend the origin of infinites in terminated limits, ſo in theſe alſo there is a comprehenſion of infinites, in terminated places, and by this boundary equality appears, ſince the altitude of the parallels remaining the ſame, if infinite parallelograms are conceived upon the ſame baſe, they may all be ſhewn to be equal to each other. The preſent, therefore, is with the inſtitutor of the Elements, the firſt local theorem. And he appears, when; agreeable to an elementary mode, he had diſtinguiſhed theorems by a variety, according to all poſſible diviſions, with great propriety not to have omitted, conſidering their idea of this kind. Nevertheleſs, as his diſcourſe, for the preſent, is concerning right lines, he delivers local plane theorems in right lines: but in the third book, as he treats concerning things which may be contemplated of circles, and their ſymptoms, he likewiſe teaches the particulars, which are conſtructed in circumferences belonging to local, and at the ſame time, plane theorems. And ſuch, among theſe, is the theorem, which ſays, *that angles in the ſame ſegment, are equal to one another.* Alſo this which aſſerts, *that the angles in a ſemicircle are right.* For

* This is a well known property of the hyperbola, and its aſymptotes; and is thus expreſſed by Mr. Simpſon, in his Conic Sections, Lib. 3. Prop. 16. "If from a point in the hyperbola, any two lines are drawn to the aſymptotes, and if from any point, in the ſame or oppoſite hyperbolas, there are drawn to the aſymptotes other right lines parallel to the former; then the rectangle contained by the lines firſt drawn, ſhall be equal to the rectangle contained by the other drawn lines."

if

if infinite angles are conſtructed in a circumference, the ſame baſe remaining, they are all ſhewn to be equal: but if that which is comprehended by the baſe and the circumference, is a ſemicircle, they are all ſhewn to be right. And theſe, indeed, correſpond in proportion to triangles and parallelograms upon the ſame baſe, and between the ſame parallels. And ſuch is the ſpecies of theorems called local, by the ancient mathematicians.

But perhaps it may ſeem perfectly worthy of admiration, to ſuch as are unſkilled in contemplations of this kind, that parallelograms conſtructed upon the ſame baſe, and between the ſame parallels, ſhould be equal to each other. For it may be aſked, how is this poſſible, ſince the longitude of the ſpaces, conſtructed on the ſame baſe, increaſes in infinitum? Since as much as we produce the parallels, by ſo much we may alſo increaſe the longitudes of the parallelograms. But ſome one may not improperly enquire how, while this takes place, the equality of the ſpaces remains. For if the breadth is the ſame (ſince the baſe is one), but the length is greater, will not the ſpace alſo be greater? The preſent theorem, therefore, and that which follows concerning triangles, are among the number of mathematical theorems, which are denominated admirable. For mathematicians in theorems, as the Stoics in arguments, have eſtabliſhed a *place*, which is called admirable, and they place the preſent among theorems of this kind. The vulgar, therefore, are immediately aſtoniſhed, when they hear that the multiplication of length does not deſtroy the equality of ſpaces on the ſame baſe. We muſt nevertheleſs aſſert, that equality and inequality poſſeſs the greateſt power in increaſing or diminiſhing the ſpaces of angles. For in proportion as we make angles unequal, in ſuch proportion we diminiſh the ſpace, if the length and breadth remain the ſame. Hence, the increaſe of length is neceſſary, that we may preſerve equality. Thus, for example, let there be a parallelogram *a b c d*, and let the ſide *a c* be produced in infinitum, and let it be a right-angled parallelogram; and laſtly, on the baſe *b d*, conſtruct another parallelogram *b e f d*. That the length, therefore, is increaſed is evident: for the ſide *b e*, is greater than the ſide *a b*,



ſince the angle at the point *a*, is right. But this neceſſarily takes place, as the angles of the parallelogram *b e f d*, are unequal, and ſome of them are acute, but others obtuſe: and this happens, becauſe the ſide *b e*, approaches after a manner to the ſide *b d*, and contracts the ſpace. For let *b g* be taken equal to *a b*, and through *g*, draw *g h* parallel to *b d*. The length, therefore, of the parallelogram *b d g h*, is equal to the length of the parallelogram *a b c d*, and the breadth is the ſame, and yet one ſpace is leſs than the other; for it is leſs than *b e f d*. Hence, the inequality of angles diminiſhes the area, but the increment of length adding as much as the inequality of angles takes away, preſerves the equality of the ſpaces. But the boundary of the increaſe of length, is the place of the parallel lines. For when both the parallelograms are rectangular, and have an equal ambit,

ambit, the quadrangle is ſhewn to be greater than the oblong *: but when they are both equilateral, and have conſequently an equal ambit, that which is rectangular, is ſhewn to be greater than that which is non-rectangular‡. For the rectitude of angles, and the equality of ſides, poſſeſſes univerſal power in the augmentation of ſpaces. It is on this account that a quadrangle is the greateſt of all figures with an equal ambit, and a rhomboides the leaſt. And theſe obſervations we ſhall demonſtrate in another place†: for they more properly belong to the hypotheſes of the ſecond book.

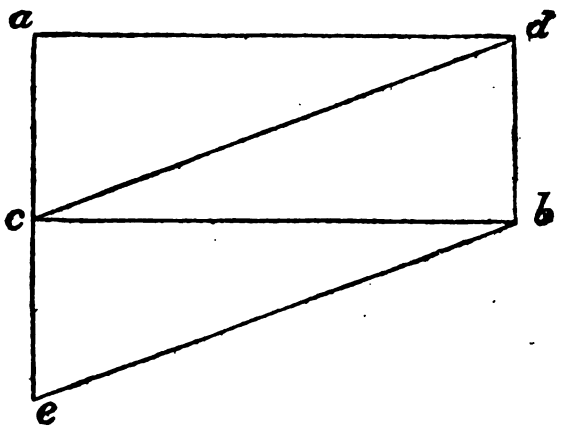
But with reſpect to the preſent theorem, it is requiſite to know, that when Euclid calls parallelograms equal, he means the ſpaces, and not the ſides: for he now diſcourſes of areas. And we muſt likewiſe obſerve, that he firſt mentions trapeziums in the demonſtration of this theorem: from whence alſo it is manifeſt, that he does not improperly teach us concerning a trapezium, in the definitions, when he informs us that it is indeed of a quadrilateral ſpecies, but is not a parallelogram. For the figure which has not its oppoſite ſides and angles equal, falls from the order of parallelograms. The inſtitutor of the Elements, therefore, as he had choſen a more difficult caſe, demonſtrates the thing propoſed. But if any one ſhould ſay, let the parallelograms *a b c d*, and *b d c e*, be upon the ſame baſe *d b*, ſo that the ſide *c d* may be the diameter of the parallelogram *a b*, we can ſhew that according to this poſition they are equal. For the triangle *b c d*, is the half of each parallelogram: becauſe *c d* is the diameter of *a b*, but *c b* of *d e*; and diameters biſect parallelograms.

* Thus let there be a ſquare, whoſe ſide is equal to three, and a parallelogram whoſe longeſt ſide is equal to four, and its ſhorteſt to two; the ambit of each figure will indeed be equal to twelve, but the area of the ſquare will be equal to nine, and of the parallelogram to eight.

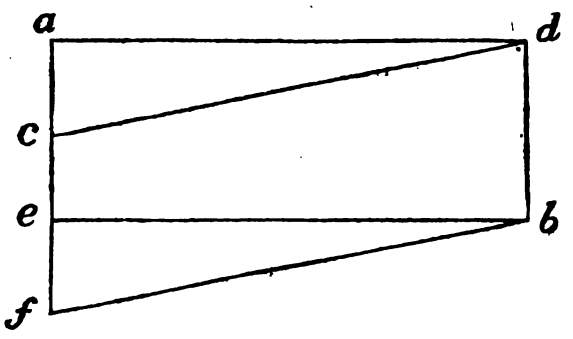
‡ This will be evident by conceiving a rectangular parallelogram equal to that which is non-rectangular, deſcribed on the ſame baſe: for the ambit of the former will be leſs than that of the latter, and conſequently leſs than the parallelogram, with an ambit equal to the non-rectangular parallelogram.

† From hence it is evident that it was the intention of Proclus to comment on the whole of Euclid: but it does not appear that he ever carried this deſign into execution.

Hence,



Hence, *a b* is equal to the parallelogram *d e*. Again, if any one ſhould ſuppoſe that the ſide *a c*, of the parallelogram *a b*, is cut by the ſide *d c*, and that the parallelograms are ſituated as *a d b e*, *b d c f*, we



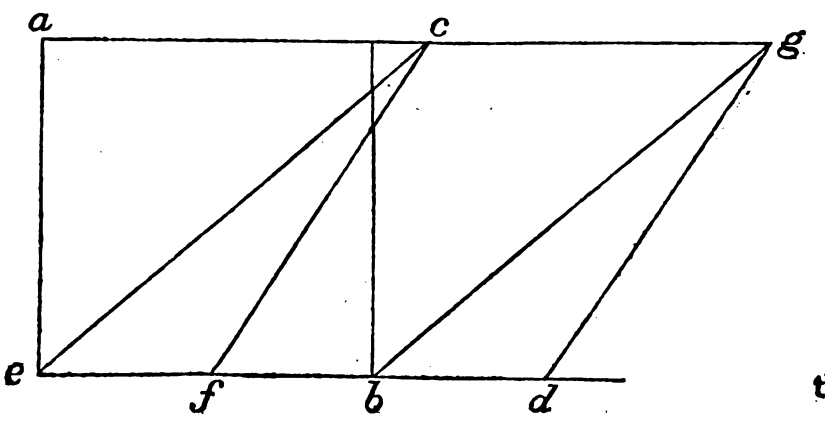
can ſhew that theſe alſo are equal. For ſince the ſide *a e*, is equal to the ſide *c f* (each becauſe oppoſite being equal to *d b*), let the common right line *c e* be taken away. Hence, *a c* is equal to *e f*. But *a d*, alſo, is equal to *e b*, and the angle *c a d*, to the angle *f e b*. For *a d* is parallel to *e b*; and hence, the baſe *c d*, is equal to the baſe *f b*, and the whole triangle *a d c*, is equal to the whole triangle *e b f*. Let the common trapezium *c b*, be added. The whole, therefore, *a b*, is not unequal to the whole *d f*. And here you may obſerve that theſe are the only three caſes. For the ſide *d c*, either cuts the ſide *e b*, according to the poſition of the elementary inſtitutor; or it falls on the

point *c*, as in the penultimate deſcription: or it cuts the line *a e*, according to the preſent ſuppoſition. And thus the theorem is ſhewn to be true according to all its caſes. Laſtly, as there is a two-fold difference of trapeziums, and one kind has neither of its oppoſite ſides parallel, but the other has one ſide parallel to one, this latter ſpecies of trapeziums is alone employed by the geometrician throughout the elements, and in the preſent deſcription: for *c e* is parallel to *d b*.

PROPOSITION XXXVI. THEOREM XXVI.

Parallelograms which are upon equal baſes, and between the ſame parallels, are equal to each other.

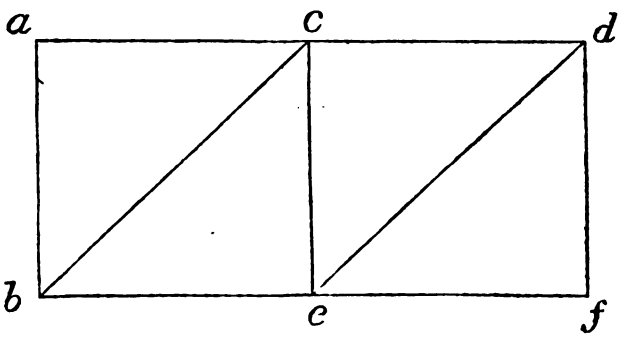
The preceding theorem aſſumed, indeed, the ſame baſes, but this receives them equal, and different from each other. But it is common to both, to ſuppoſe the parallelograms between the ſame parallels. It is requiſite, therefore, that they ſhould neither fall within, nor without their ſubject parallel lines. For parallelograms are ſaid to be between the ſame parallels, when their baſes and oppoſite ſides are adapted to the ſame parallels. As to the reſt, the inſtitutor of the Elements, as he had aſſumed the baſes entirely ſeparate, exhibits the theorem. But nothing hinders our receiving them with this hypotheſis, ſo that they may have a common part. For let *a b*, *c d*, be parallelograms upon equal baſes *e b*, *f d*, having a common part, and conſtructed between the ſame parallels, I ſay that they are equal. Let



the

the lines *e c*, *b g*, be connected. Becauſe, therefore, *e f*, is equal to *b d* (for the baſe *e b*, was ſuppoſed equal to the baſe *f d*), but the ſide *c f*, is equal to the ſide *d g*, and the angle *c f e*, is equal to the angle *g d b*, and hence, *c e* is equal to *b g*. But it is alſo parallel to it. Hence, *c b* is a parallelogram, and has the ſame baſe with each of the parallelograms *a b*, *c d*, and is between the ſame parallels. The parallelogram, therefore, *a b*, is equal to the parallelogram *c d*.

But if any one ſhould ſuppoſe that the baſes of the parallelograms have neither a common part, nor are ſeparate from each other, but (which is the only remaining hyyotheſis) that they touch each other in one point, as in the parallelograms *a e*, *e d*, we muſt ſay that the



baſe *b e* is equal to the baſe *e f*, and to the ſide *c d*. Hence, alſo, the right line *c b*, is equal to the right line *d e*, and is parallel to it. For the lines which join equal and parallel lines, are themſelves alſo equal and parallel. Hence, *b d* is a parallelogram, and is upon the ſame baſe, and between the ſame parallels, with the parallelograms *c b*, *d e*. The parallelograms, therefore, *c b*, *d e*, are equal. But according to the firſt conception of a theorem, we may divide the conſtructions by aſſerting that the baſes have either a common part, or touch each other, or are diſtant from each other. It is however poſſible, that though they may touch each other, as *b e*, *e f*, yet the whole parallelogram *d e* may be ſuppoſed external to the ſide *c e*; or one ſide of the parallelogram *c f*, may be the diameter of the parallelogram *a e*; or the ſide *c e*, may cut the ſide *a c*; or the ſide *a c*, being produced beyond *a*, the ſide *c e*, may fall as the diameter of the parallelogram increaſed

increaſed towards *a*, when the ſide *d f* becomes the ſame as a line drawn from *a* to *f*, ; or the ſide *c e*, may cut the ſide *a c*, produced beyond *a*; or the ſide *a c*, may be ſtill farther produced beyond *a*, ſo that the ſide *c e* may fall beyond the point, to which *a c* was extended in the preceding caſe, and the ſide *d f*, may cut the line produced beyond *a* †. * * *.

PROPOSITION XXXVII. THEOREM XXVII.

Triangles which are upon the ſame baſe, and between the ſame parallels, are equal to each other.

The beginning of this Commentary is wanting.

* * *

* * for thoſe being equal, the ſpaces are unequal ; and when theſe are unequal, thoſe are ſhewn to be equal. And this is the caſe with Chorographers, when hey reaſon concerning the magnitudes of cities, from their ambits. But formerly, certain perſons deceived their partners, in the diſtribution of their poſſeſſions, deluding them by an exceſs of ambit, ſo as to make them believe that they received a greater portion of land, when they received a greater ambit ; and that they were gainers, by changing ſpaces into areas of leſs ambit. ‡ Thus two iſoſceles triangles being propoſed, one of which has each of its equal ſides, containing five parts, but the baſe ſix: and the other has each of its equal ſides five parts, but the baſe eight ; and let theſe parts be, for inſtance, cubits, or digits, theſe triangles will very much deceive the ignorant in their choice. For the ambit of the one is eighteen, and of the other ſixteen meaſures. But a geometrician is not ignorant that the ſpaces are equal, though the ambits are unequal ; ſince the area of each is twelve meaſures. For if you draw a per-

† The preſent Commentary is imperfect, both in the Greek, and the tranſlation of Barocius ; who obſerves that the concluſion is wanting in all the copies which he had an opportunity of peruſing. Thoſe who are curious may conſult his ſcholium, in which he has endeavoured to complete it.

‡ See Comment 8, of the third book, with its note.

pendicular from the vertex, you will biſect the baſes, and cauſe the half of the one to be three but of the other four meaſures: but the perpendicular on the contrary, will be there equal to four, but here equal to three; ſince it is requiſite that the ſquare from the quinary, ſhould be equal to the ſquares from the perpendicular, and the half of the baſe. But if the baſe of the one is equal to three, the perpendicular muſt be four; and if the baſe of the other is equal to four, its perpendicular muſt be three. When, therefore, you have multiplied the half of the baſe with the perpendicular, you will have a ſpace equal to the triangle: but this is the ſame in each, whether you multiply the quaternary with the ternary, or the ternary with the quaternary. And we have made theſe obſervations for the purpoſe of ſhewing that the equality of ſpaces is not to be entirely received from the ambits. Nor ſhould we wonder, that though triangles upon the ſame baſe, may be infinitely increaſed between the ſame parallels, according to the remaining ſides, yet the equality of the ſpaces immutably remains. But thoſe triangles are ſaid to be between the ſame parallels, which have their baſes upon one of the parallel lines, and fix their vertices on the remainder; and whoſe vertices being connected, form one right line, parallel to the baſes on the ſame right line.

PROPOSITION XXXVIII. THEOREM XXVII.

Triangles which are upon equal baſes, and between the ſame parallels, are equal to each other.

The preſent theorem alſo is local, becauſe it correſponds in proportion with parallelograms, and ſuppoſes the ſituation of triangles upon equal baſes. But Euclid ſeems, to me, to have delivered one demonſtration by the firſt propoſition of the ſixth book of theſe four theorems, two of which are exhibited in parallelograms, and two in triangles: and two of which are on the ſame baſe, and the other two on equal baſes. But that Euclid has performed this is unknown to the vulgar. For after he had ſhewn that triangles and parallelograms, which are under the ſame altitude, have the ſame proportion to each other

other as their baſes, nothing demonſtrates all theſe four theorems more univerſally, from proportion, than this theorem: ſince to poſſeſs the ſame altitude, is nothing elſe than being conſtituted between the ſame parallels. For all figures between the ſame parallels, are under the ſame altitude, and the contrary: ſince the altitude is the perpendicular, which extends itſelf from one parallel to the reſt. In that propoſition, therefore, it is ſhewn by proportion, that triangles and parallelograms, under the ſame altitude, that is, ſituated between the ſame parallels, are to each other as their baſes, and ſo when the baſes are equal, the ſpaces are equal; and when thoſe are double, theſe will be double; and when the baſes have any other proportion, the ſpaces alſo will have to each other the ſame proportion. But for the preſent, becauſe it is not proper that he ſhould uſe proportion, who has not yet explained its nature, he is content with equality and identity alone: for the identity of baſes is collected from equality. Hence, theſe four theorems are comprehended in that one; not only becauſe he ſhews by one demonſtration, whatever are contained in theſe four, but likewiſe, becauſe he adds what was wanting to their perfection, viz. identity of proportion, though the baſes are unequal. But that this theorem, alſo, has many caſes, and that it is poſſible that the baſes of the triangles may be aſſumed, either having the ſame part as in parallelograms; or poſſeſſing no common part, but touching each other according to one point; or entirely ſeparate, ſo that a line may intervene between them, is manifeſt, even to ſuch as are endued with ſlender capacities. And this too is evident, that according to all caſes, however the baſes or vertices may be ſituated, the ſame method of proceeding muſt be adopted as in parallelograms; viz. parallels to the ſides muſt be drawn, and produced both ways, and the equality of the triangles exhibited.

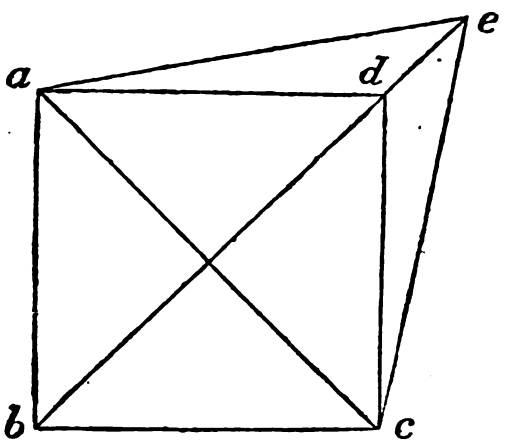
PROPOSITION XXXIX. THEOREM XXXIX.

Equal triangles, which are upon the ſame baſe, and at the ſame parts, are between the ſame parallels.

When it was propoſed to exhibit equality to us, then it was requiſite to make four theorems, receiving two in parallelograms, but the other two in triangles, ſituated either upon the ſame, or upon equal baſes. But now by converſion, we neglect the theorems which are converſe in parallelograms, and eſteem ſuch as are converſe in triangles worthy of relation. And the reaſon of this is, becauſe the mode of demonſtration in parallelograms, is the ſame indifferently, by a deduction to an impoſſibility, and the conſtruction is ſimilar. But we are content when we have exhibited the way in more ſimple figures, I mean triangles, to leave to the more curious the ſame mode of reaſoning in the reſt: ſince it is eaſy, at the ſame time, to perceive that there is the ſame method in theſe. For when we aſſume equal parallelograms, upon the ſame baſe, or upon equal baſes, we muſt ſay that they are alſo between the ſame parallels. For if they are not, either one of them falls within, when the parallels which are in the other are produced; or without. But which ever caſe is aſſumed, when we receive it and its parallels, we may exhibit the ſame conſequences as in triangles, I mean that the whole will be equal to its part: but this is impoſſible. It is however manifeſt, that the inſtitutor of the Elements very properly adds the particle, *and at the ſame parts*. For it is poſſible that equal triangles, may be aſſumed upon the ſame baſe, one, indeed, at theſe parts, but the other at different parts, and yet theſe will not be entirely between the ſame parallels: for neither will they be contained under the ſame altitude. And on this account he added the particle.

But ſince a parallel may be drawn in a two-fold reſpect, according to an abſurd hypotheſis, i. e. either within or without, Euclid draws it within: but we can exhibit the ſame conſequences, by drawing it without. For let the equal triangles *a b c*, *d b c*, be upon baſe, and at the ſame parts, I ſay that they are between the ſame parallels, and that the right line connected at their vertices, is parallel to the baſe. Let the right line *a d* be connected. But if this is not parallel, let the line, external to this, i. e. *a e* be parallel, and let *b d* be produced to the point *e*, and connect *e c*. The triangle, therefore,

a b c.

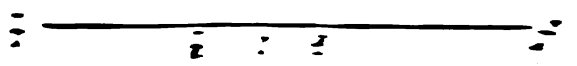


a b c, is equal to the triangle *e b c*, the whole to the part. But this is impoſſible ; and hence, the parallel line does not fall external to *a d*. But it is ſhewn by the inſtitutor of the Elements, that neither does it fall within : and hence *a d*, is parallel to *b c*. Hence too, equal triangles, which are at the ſame parts, and upon the ſame baſe are parallel to each other. And thus the remaining part of the deduction to an impoſſibility is demonſtrated. But it is worthy of obſervation, that ſince the converſion of theorems is triple (for either the whole is converted to the whole, as we have noticed, in the eighteenth and nineteenth theorems; or the whole to the part, as the ſixth and fifth ; or the part to the part, as the eighth and the fourth : for the whole is not a *datum*, in the one, and *an object of inveſtigation* in the other : nor is *the object of inveſtigation*, *a datum*, but a part) theſe triangular theorems appear to be of this kind. For, that the triangles are equal, is an object of inveſtigation in the preceding ; but this is not a datum alone in theſe, becauſe it aſſumes, beſides this, a part of that which was hypotheſis in thoſe. For to ſtand upon the ſame, or upon equal baſes, is a datum in theſe, as well as in thoſe, except that in theſe hypotheſes he adds ſomethiug which was neither an object of inveſtigation, nor a datum in theſe; ſince the particle *at the ſame parts*, is over and above extrinſically aſſumed.

PROPOSITION XL. THEOREM XXX.

Equal triangles which are upon equal baſes, and at the ſame parts, are between the ſame parallels.

There is the ſame mode of converſion too in the preſent theorem, and a ſimilar demonſtration; and that part of the deduction to an impoſſibility, which is omitted by the inſtitutor of the Elements, is demonſtrated after the ſame manner, and there is no occaſion for repetition. But ſince theſe three conditions are in the aforeſaid propoſitions, *ſituation upon equal, or on the ſame baſes; poſition between the ſame parallels; and equality of triangles and parallelograms*, it is manifeſt that we may variouſly convert, by always connecting two, and leaving one. For we either ſuppoſed the baſes the ſame, or equal, and triangles and parallelograms between the ſame parallels, and thus we form four theorems; or we conſider the triangles and parallelograms equal, and the baſes the ſame, or equal, and thus we produce another four, two of which the elementary inſtitutor omits, viz. thoſe which reſpect parallelograms, but the other two relative to triangles, he exhibits; or laſtly, when we have aſſumed them equal, and between the ſameparallels, we prove the remainder, that they are either upon the ſame, or upon equal baſes, and produce another four, which the inſtitutor of the Elements entirely neglects. For there is the ſame demonſtration in theſe, except that two of theſe four are not eſſentially true. Thus, equal parallelograms or triangles, between the ſame parallels, are not neceſſarily upon the ſame baſe: but all this is true in theſe hypotheſes, that they are upon the ſame or equal baſes; but the other does not entirely follow the aſſumed hypotheſes. Hence, as all theſe theorems are ten, the geometrician ſpeaks of ſix, and neglects four, leſt he ſhould labour in vain, by repetition, ſince the demonſtration is the ſame. For it may be ſhewn in triangles, that if they are equal, and between the ſame parallels, they will either be upon the ſame, or upon equal baſes. For let it be denied, and if poſſible, let the triangles *a b c*, *d e f*, have theſe conditions, upon unequal baſes *b c*, *e f*. Let too, *b c*, be the greater, and cut off *b h*, equal to *e f*,



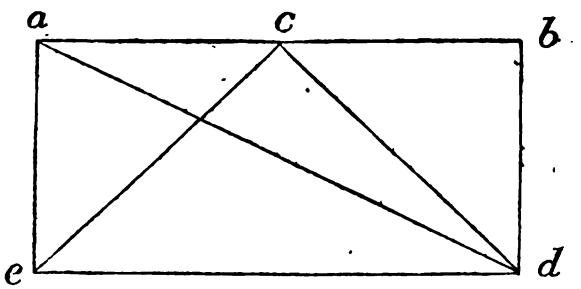
[illegible]

PROPOSITION [illegible] THEOREM [illegible]

If a parallelogram has the same base with a triangle, and is between the same parallels, the parallelogram shall be double the triangle.

[illegible]

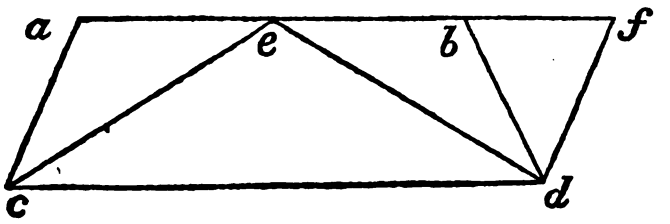
whether they are triangles, or parallelograms. But in theſe latter, the firſt of unequal proportions, I mean the duple, is exhibited: for he demonſtrates that a parallelogram is double of a triangle, on the ſame baſe, and poſſeſſing the ſame altitude. But the elementary inſtitutor ſhews the thing propoſed, by ſuppoſing the vertex of the triangle external to the parallelogram. We can, however, demonſtrate the conſequence, by aſſuming the line which is parallel to their common baſe, in the other ſide of the parallelogram: for theſe are two caſes of the theorem. Since in conſequence of the two having the ſame baſe, it is neceſſary that the vertex of the triangle ſhould either be within, or without the parallelogram. Let there be, therefore, a parallelogram *a b e d*, and a triangle *e c d*, and let a point *c* be placed between the points *a* and *b*, and connect the right line *a d*. Becauſe, therefore, the parallelogram is double of the triangle *e c d*, but the



triangle *a d c*, is equal to the triangle *e d c*, hence, the parallelogram is double of the triangle *e c d*. And hence it is evident that a parallelogram is double of a triangle on the ſame baſe. But if the baſes are equal, we can ſhew the ſame by drawing the diameters of the parallelograms: for if the triangles are equal, the parallelogram which is double of the one, will alſo be double of the other. But triangles are equal, on account of the equality of baſes, and the identity of altitude. The geometrician, therefore, very properly omits this, for the demonſtration is the ſame: ſince they will either have the ſame part, or they will be conjoined in one point only, or they will be ſeparate from each other. But in whatever manner they may receive this variety, there is one demonſtration according to all the caſes.

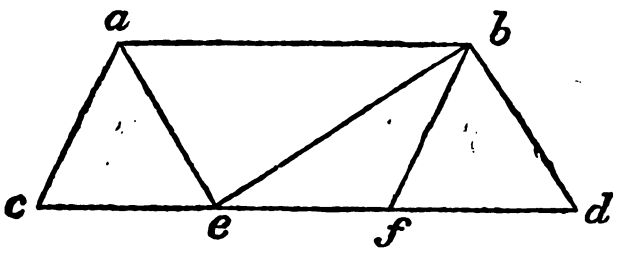
We

We can likewiſe demonſtrate the converſe propoſitions to this theorem, after the ſame manner. One of which is: *If a parallelogram is double of a triangle, and they have the ſame or equal baſes, and are at the ſame parts, they ſhall be between the ſame parallels.* For if they are not the whole ſhall be equal to the part, and the ſame proportion ſhall prevail: ſince it is neceſſary that the vertex of the triangle ſhould either fall within, or external to the parallels. But in either caſe, the ſame impoſſibility will be the reſult, by drawing a parallel to the baſe, through the vertex of the triangle. But the ſecond converſe theorem is: *If a parallelogram is double of a triangle, and both are between the ſame parallels, they will either be ſituated upon one baſe, or upon equal baſes.* For if they are upon unequal baſes, ſince we have aſſumed the figures to be equal, we may ſhew that the whole will be equal to its part. Hence, all theſe theorems end in this common impoſſible: and on this account, the inſtitutor of the Elements leaves us to inveſtigate the variety they contain, as he himſelf, has contracted his ſpeculation to ſuch as are more ſimple, and of a more primary nature. However, as we have recognized theſe obſervations, let us ſee for the ſake of exerciſe, by not aſſuming a parallelogram, but a trapezium, two of whoſe ſides only are parallel (becauſe it has the ſame baſe with the triangle, while it is ſituated between the ſame parallels), let us, I ſay, conſider what proportion it poſſeſſes to the triangle. That it has not, therefore, a duple proportion is evident: for if it had a duple ratio, it would be a parallelogram, ſince it is a quadrilateral figure. But I ſay that it is either greater than double or leſs t for ſince the two ſides are parallel, one is greater, but the other leſs; becauſe if equal, the ſides conjoining them will be parallel. If, therefore, the triangle has its greater ſide for the baſe, the quadrilateral figure will be leſs than double of the triangle: but if the leſſer ſide, it will be more than double. For let *a b c d*, be a quadrilateral figure, and let the ſide *a b*, be leſs than the ſide *c d*, and produce the ſide *a b*, in infinitum, and let the triangle *e c d* have the ſame baſe with the quadrilateral figure, that is *c d*; and laſtly, through *d*, draw

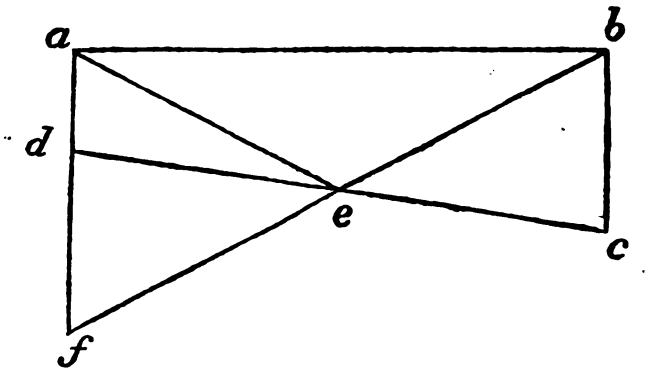


d f, parallel to *a c*. Hence, the parallelogram *a c d f*, is double of the triangle *e c d*; and ſo the quadrilateral figure *a b c d*, is leſs than double of the triangle.

Again, let the triangle have the baſe *a b*, and draw *b f*, parallel to *a c*. The parallelogram, therefore, *a b f c*, is double of the triangle.



And hence, the quadrilateral figure, *a b c d*, is more than double of the triangle. This being ſhewn; we affirm, that when there is a quadrilateral figure, whoſe two oppoſite ſides only, are parallel, if one of the parallel ſides is biſected, and right lines are drawn from it to the other ſide, the quadrilateral figure, is either more or leſs than double of the triangle reſulting from ſuch a conſtruction. But if one of the ſides by which the parallel lines are conjoined, is biſected, and certain right lines are drawn from it to the remaining ſide, the quadrilateral figure, will be perfectly double of the triangle which is produced. And this may be ſhewn as follows. Let there be a quadrilateral figure *a b c d*, and let the ſide *a d*, be parallel to the ſide *b c*, and biſect *d c*, in the point *e*, and connect the right lines *a e*, *e b*, and produce *b e*, till it coincides with *a d*, in ſome point, as *f*. Becauſe, therefore, the angles at the point *e*, are equal, for they are vertical; likewiſe, becauſe the angle *f d e*, is equal to the angle *b c e*, the ſide alſo *f e*, will be equal to the ſide *e b*, and the triangle *d e f*, will be equal to the triangle *b c e*, Let the common triangle *a d e*, be added. The whole triangle, therefore,



fore, *a e f*, is equal to the two triangles *a d e*, *b c e*. But the triangle *a e f*, is equal to the triangle *a e b*: for they are upon equal baſes, *b e*, *e f*, and between the ſame parallels, if a line parallel to *b f*, is drawn *. Hence, the triangle *a e b*, is equal to the triangles *a d e*, *b c e*, and the quadrilateral figure *a b c d*, is double of the triangle *a e b*, which was to be ſhewn. After the ſame manner, we may ſhew, that if the ſide *a b*, is biſected, and certain right lines are drawn from it, to the ſide *e d*, the quadrilateral figure will be double of the triangle formed by ſuch a conſtruction. If, therefore, one of the ſides by which the parallel lines are conjoined is biſected, and from it certain right lines are drawn to the remaining ſide, the quadrilateral figure ſhall be double of the triangle. And theſe things are demonſtrated for the ſake of geometrical exerciſe. Let us now proceed to the ſubſequent propoſitions.

PROPOSITION XLII. Problem XI.

To conſtruct a parallelogram equal to a given triangle, in a given rectilineal angle †.

* * * *

PRO-

* Barocius is of opinion, that this Commentary was originally mutilated; and that the part which follows the word *drawn*, was added by ſome ſkilful geometrician, as neceſſary to the perfection of the demonſtration. See his Scholium to this Commentary.

† The Commentary of Proclus, on this propoſition is wanting in the Greek, and, as we are informed by Barocius in all the MS. copies which he had an opportunity of conſulting.

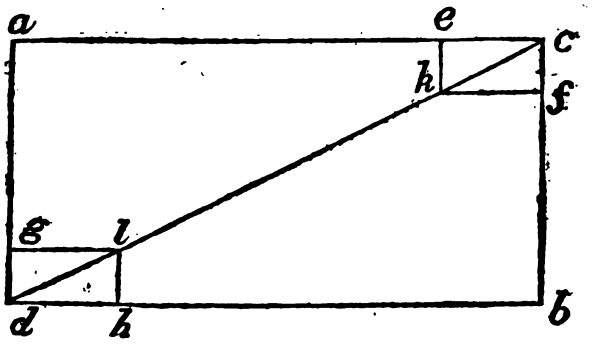
PROPOSITION XLIII. THEOREM XXXII.

The complements of parallelograms, ſituated about the diameter of every parallelogram, are equal to each other.

The beginning of this commentary is wanting.

* * * *

that parallelograms are not mutually conjoined according to one point, and that the complements are not quadrilateral; it is requiſite that placing this alſo as a caſe, we ſhould regard the ſame accident. For let there be a parallelogram *a b*, having the parallelograms *c k*, *d l*, about the ſame diameter, and let a certain right line *k l*, which is

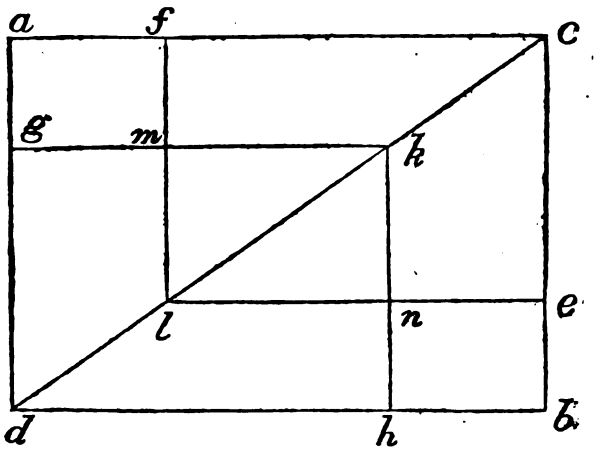


a part of the diameter intervene between them. Again, therefore, you may ſay the ſame, viz. that the triangle *a c d*, is equal to the triangle *b c d*, and the triangle *e c k*, to the triangle *k c f*; and likewiſe the triangle *d g l*, to the triangle *d h l*. The remaining figure, therefore, *a g l k e*, of five ſides, is equal to the remaining five-ſided figure *b f k l h*. But theſe were the complements. Again, if the parallelograms are neither conjoined according to a point, nor diſtant from

Barocius has endeavoured to ſupply this deficiency, after the manner of Proclus; but he appears to have fallen into prolixity, by a too minute diviſion of the problem.

each

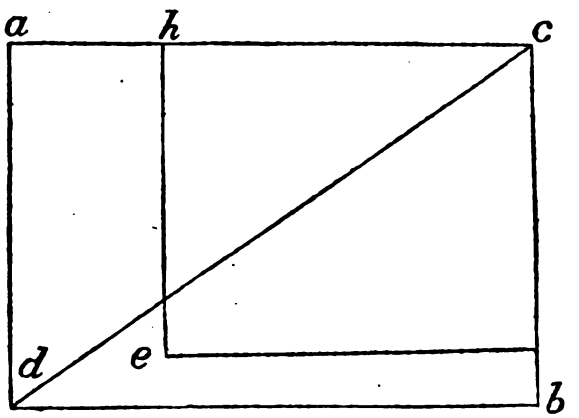
each other, but mutually cut each other, on this hypotheſis alſo, the demonſtration will be the ſame. For let there be a parallelogram *a b*, and a diameter *c d*, and let parallelograms be conſtructed about it,



one of which is *e c f l*, but the other, by which this alſo is interſected, *d g k h*. I ſay that the complements *f g*, *e h*, are equal. For ſince the whole triangle *d g k*, is equal to the whole triangle *d h k*, but a part of it alſo, the triangle *k l m*, is equal to the triangle *k ln*; (ſince *l k* is a parallelogram); hence the remaining trapezium *d l n h*, is equal to the remaining trapezium *d l m g*. But the triangle *a d c*, is equal to the triangle *b c d*, and the triangle *f c l*, in the parallelogram *e f*, to the triangle *e c l*, and the trapezium *d g m l*, to the trapezium *d h n l*. The remaining quadrilateral figure, therefore *g f*, is not unequal to the remaining quadrilateral figure *e h*. And hence, the theorem is exhibited according to all its caſes. But there are three only, and neither more nor leſs. For the parallelograms conſiſting about the ſame diameter, either cut each other or touch each other, according to a point, or are diſtant from each other by a certain part of the diameter.

But the inſtitutor of the Elements aſſumes the appellation of *complements*, from the thing itſelf, ſo far as theſe alſo, beſides two parallelograms, fill up the whole: and on this account, it was not of itſelf thought worthy of being remembered in the definitions. For, indeed, variety is requiſite to its declaration, ſuch as the knowledge of a pa-

rallelogram, and what thoſe parallelograms are, which are about the diameter of the whole parallelogram; ſince, when theſe are explained, this likewiſe becomes known. But thoſe parallelograms are about the ſame diameter, which have a part of the whole diameter for their own: and thoſe which have not this condition, are by no means about the ſame diameter. For when the diameter of the whole parallelogram is cut by the ſides of an internal parallelogram, then this parallelogram is not about the ſame diameter with the whole parallelogram. As for example, in the parallelogram *a b*, let the diameter *c d*, cut the ſide *e h*, of the parallelogram *c e*. The parallelogram,



therefore, *e c*, is not about the ſame diameter with the parallelogram *c d*.

PROPOSITION XLIV. Problem XII.

To a given right line, to apply a parallelogram equal to a given triangle, in an angle which is equal to a given right lined angle.

According to the Familiars of Eudemus, the inventions reſpecting the *application*, *exceſs*, and *defect* of ſpaces, is ancient, and belongs to the Pythagoric muſe. But junior mathematicians receiving names from theſe, transferred them to the lines which are called conic, becauſe one of theſe they denominate a parabola, but the other an hyperbola,

perbola, and the third an ellipſis *; ſince, indeed theſe ancient and divine men, in the plane deſcription of ſpaces on a terminated right line, regarded the things indicated by theſe appellations. For when a right line being propoſed, you adapt a given ſpace to the whole right line, then that ſpace is ſaid to be *applied*; but when you make the longitude of the ſpace greater than that of the right line, then the ſpace is ſaid to *exceed*; but when leſs, ſo that ſome part of the right line is external to the deſcribed ſpace, then the ſpace is ſaid to be *deficient*. And after this manner, Euclid, in the ſixth book, mentions both exceſs and defect. But in the preſent problem he requires application, wiſhing to apply to a given right line a parallelogram equal to a given triangle; that we may not only have the conſtruction of a parallelogram equal to a given triangle, but alſo an application to a determinate right line. As for example, a triangle being given, having an area of twelve feet, but a right line being propoſed, whoſe length is four feet, we may apply to the right line a parallelogram equal to the triangle, if when we aſſume the whole length of four feet, we find how many feet the breadth ought to contain, that the parallelogram may become equal to the triangle. When, therefore, we have diſcovered that the breadth is three feet, and have multiplied the length with the breadth, the propoſed angle being right, we ſhall obtain the deſired ſpace. And ſuch is the verb *to apply*, formerly delivered by the Pythagoreans. But there are three things given in the preſent problem; one, the right line to which it is to be ſo applied, that it may become the whole ſide of that ſpace; but the other is the triangle to which that which is applied ought to be equal; and the third is the angle to which it is requiſite that the angle of the ſpace ſhould be equal. And here it is again perſpicuous, that when the angle is right, the ſpace which is applied, is either a quadrangle, or an oblong; but when it is either acute or obtuſe, the ſpace is either a rhombus, or rhomboides. Beſides, this too is manifeſt, that the right line ought to be finite; ſince this cannot be accompliſhed on an infinite

* See Simſ. Sect. Con Lib. I. Prop. 13. and Lib. II. Prop. 23, and Lib. III. Prop. 48.

line.

line. At the same time, therefore, as he says, *to apply to a given right line*, he indicates that the right line must be necessarily finite. But he uses in the construction of the present problem, the construction of a parallelogram equal to a given triangle; since, as we have observed, application is not the same with construction. For the latter, indeed, constructs both the whole space, and all the sides; but the former, when it has one side given, constitutes on this the space, because it is neither deficient, nor exceeds according to this extension, but uses this one side which comprehends the area. But you may perhaps say, why does he use theorems, when he shews triangles equal to triangles; but problems, when he shews triangles equal to parallelograms? We reply, it is because equality spontaneously arises in things of the same species; but requires origin, and fabrication, in things of a dissimilar species, on account of the mutation subsisting according to species, since it is by itself difficult of invention.

PROPOSITION XLV. PROBLEM XIII.

To construct a parallelogram equal to a given right-lined figure, in a given rectilineal angle.

The present is more universal than the two problems, in which he invented as well the construction, as the application of parallelograms equal to a given triangle. For whether a triangle, or a quadrangle, or any other quadrilateral figure is given, we may construct a parallelogram equal to it, by the present theorem; since every right-lined figure, as we have previously observed*, may be essentially resolved into triangles, and we have delivered a method of discovering the multitude of triangles. When, therefore, we have resolved a given rectangle into triangles, and have constructed a parallelogram equal to one of them, and have applied to a given right line, parallelograms equal to the rest; then, by assuming that to which we have made

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* In the sixth Commentary of this book.

the firſt application, we ſhall have a parallelogram compoſed from theſe parallelograms, equal to the right-lined figure compoſed from thoſe triangles, and the thing deſired, will be accompliſhed. Hence, though ſuch a rectangle ſhould be a figure of ten ſides, yet, by reſolving it into eight triangles, and conſtructing a parallelogram equal to one of them, and ſeven times applying parallelograms equal to the reſt, we ſhall obtain the object of inveſtigation. But, as it appears to me, the ancients being incited by this problem, ſought how to deſcribe a quadrangle equal to a circle. For if a parallelogram can be found equal to any right-lined figure, it deſerves to be enquired whether right-lined figures alſo, can be ſhewn equal to ſuch as are curve-lined. And Archimedes ſhews that every circle is equal to a right angled triangle, one of whoſe radii is equal to one of the ſides which are about the right angle of the triangle; but whoſe ambit is equal to the baſe. However, of this elſewhere: let us now proceed to the conſequent propoſitions.

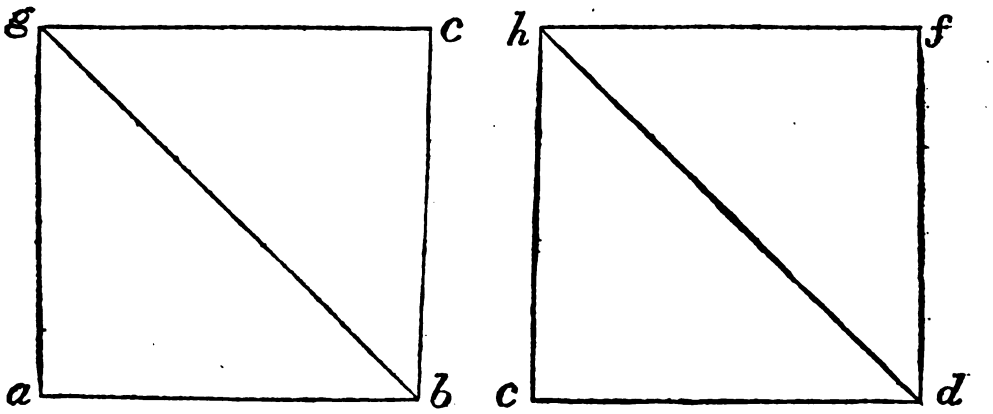
PROPOSITION XLVI. PROBLEM XIV.

To deſcribe a quadrangle from a given right line.

Euclid requires this problem, moſt particularly, in the conſtruction of the following theorem. But he appears to have been deſirous to deliver the origin of the two beſt rectilineal figures, viz. the equilateral triangle, and the quadrangle; becauſe theſe right lined figures are required in the conſtitution of the mundane figures, and particularly of thoſe four, to which origin and diſſolution belong. For the icoſaedron, and the octaedron, and the pyramid, are compoſed from equilateral triangles; but the cube from quadrangles. And on this account, as it appears to me, he has principally *conſtructed* the former, but *deſcribed* the latter. For he has diſcovered appellations adapted

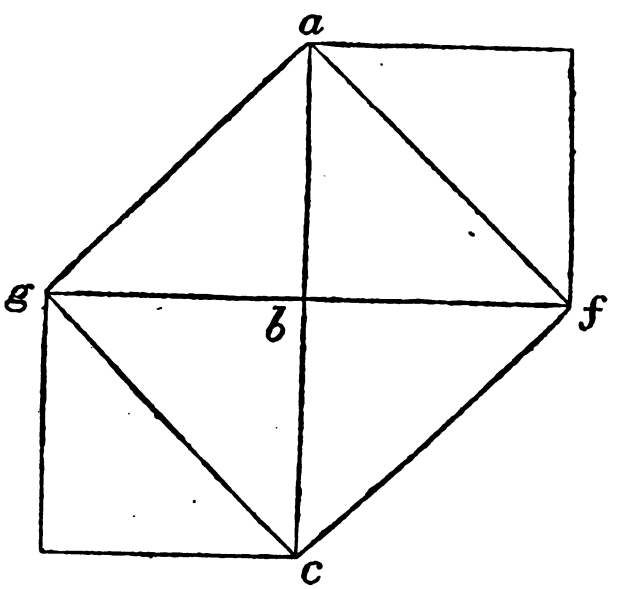
to theſe figures: ſince the equilateral triangle, ſo far as its compoſition is various, requires *conſtruction*; but the quadrangle, ſo far as it originates from one ſide, requires *deſcription*. For we cannot produce a triangle in the ſame manner as a quadrangle, by multiplying the number of a given right line into itſelf; but when we have conjoined right lines produced by other means, with the extremities of the given right line, we conſtruct from theſe one equilateral triangle: and the deſcription of circles, profits in diſcovering that point from which it is requiſite to connect right lines, to the extremes of the propoſed right line. But theſe obſervations are indeed perſpicuous.

It may, however, be ſhewn, that the right lines, from which quadrangles are deſcribed, being equal, the quadrangles alſo ſhall be equal. For let the right lines *a b*, *c d*, be equal, and from *a b*, deſcribe the quadrangle *a b c g*, but from *c d*, the quadrangle *c d h f*,



and connect the right lines *g b*, *h d*. Becauſe, therefore, the right lines *a b*, *c d*, are equal, *a g*, *h c*, are alſo equal; and they comprehend equal angles, and the baſe *g b*, is equal to the baſe *h d*, and the triangle *a b g*, to the triangle *c d h*; and the doubles of theſe are equal. Hence the quadrangle *a c*, is not unequal to the quadrangle *c f*. But the converſe of this alſo is true. For if the quadrangles are equal, the right lines, alſo, from which they are deſcribed, will

be equal. Thus let the quadrangles *a f*, *c g*, be equal, and let them be ſo placed, that the ſide *a b*, may be in a right line with the ſide *b c*. Since therefore, the angles are right, the right line alſo *f b*, will be in a



direct poſition, with the right line *b g*. Let the right lines *f c*, *a g*, *a f*, *c g*, be connected. Becauſe, therefore, the quadrangle *a f*, is equal to the quadrangle *c g*; the triangle, alſo, *a f b*, is equal to the triangle *c b g*. Let the common triangle *b c f*, be added. The whole triangle, therefore, *a c f*, is equal to the whole triangle *c f g*.

Hence, *a g* is parallel to *f c*. Again, becauſe, as well *a f g*, as the angle *c g b*, is the half of a right angle, *a f*, is parallel to *c g*. The right.line, therefore, *a f*, is equal to the right line *c g*, ſince they are the oppoſite ſides of a parallelogram. Becauſe, therefore, there are two triangles, *a b f*, *b c g*, which have the alternate angles equal, ſince *a f*, *c g*, are parallel; likewiſe one ſide *a f*, equal to the ſide *c g*, the ſide, alſo, *a b*, ſhall be equal to the ſide *b c*, and the ſide *b f*, to the ſide *b g*. And thus it is ſhewn, that the quadrangles *a f*, *c g*, being equal, the ſides, alſo, from which they are deſcribed are equal.

PROPOSITION XLVII. THEOREM XXXIII.

In right angled triangles, the quadrangle, which is deſcribed from the ſide ſubtending the right angle, is equal to the quadrangles which are deſcribed from the ſides comprehending the right angle.

If we attend to the hiſtorians of antiquity, we ſhall find them referring the preſent theorem to Pythagoras, and aſſerting that he ſacrificed an ox for its invention. For my own part, I admire thoſe who firſt inveſtigated the truth of this theorem: but I poſſeſs a greater admiration for the elementary inſtitutor, not only becauſe he eſtabliſhes its truth by evident demonſtration, but likewiſe, becauſe he perſuades us by ſcientific reaſons, which cannot be confuted of a theorem more univerſal than this in his ſixth book*. For in that he ſhews univerſally, *that in right-angled triangles, the figure deſcribed from the ſide ſubtending the right angle, is equal to the figures deſcribed from the ſides comprehending the right angle, when they are ſimilar to the former figure, and are ſimilarly deſcribed.* For every quadrangle is ſimilar to every quadrangle; but all right-lined figures ſimilar to each other, are not quadrangles: ſince in triangles, and other multangles, ſimilitude is inherent. Hence, the reaſon which demonſtrates that the figure deſcribed from the ſide ſubtending the right angle, whether it is quadrangular, or of ſome other form, is equal to the figures ſubſiſting about the right angle, ſimilar to the former, and ſimilarly deſcribed; exhibits ſomething more univerſal, and which poſſeſſes a greater power of producing ſcience, than the reaſon exhibits, affirming a quadrangle alone, equal to quadrangles. For in the former caſe, it becomes manifeſt by an univerſal oſtenſion, that the rectitude of the angle affords to the figure deſcribed from its ſubtending ſide, equality, to all the figures, ſubſiſting about its comprehending ſides, ſimilar to the former, and ſimilarly deſcribed: juſt as obtuſeneſs is the cauſe of

* In the 31ſt propoſition.

exceſs;

exceſs; but acuteneſs of diminution. But how this theorem is evinced, will be perſpicuous, when we comment on it in the ſixth book.

But let us now conſider the truth of the preſent theorem, only adding this, that *univerſal* ought not to be ſhewn here, by him who has taught nothing concerning the ſimilitude of right lined figures, and the doctrine of proportion: for many things which are here exhibited more particularly, are in that theorem ſhewn more univerſally by the ſame method. The inſtitutor of the Elements, therefore, ſhews the thing propoſed in the preſent, from the common contemplation of parallelograms. But ſince right-angled triangles are two-fold, i.e. either iſoſceles, or ſcalene; in iſoſceles triangles, we ſhall never find numbers correſponding with the ſides: for there is no quadrangular number, exactly double of another quadrangular number; ſince the ſquare from the ſeptenary is double of the ſquare from the quinary, by a deficience of unity. But in ſcalene triangles it is poſſible, that numbers may be aſſumed, ſo as evidently to evince, that the ſquare from the ſide ſubtending the right angle, is equal to the ſquares from the ſides ſubſiſting about the right angle. And of this kind is the triangle in the republic, whoſe right angle is contained by the ternary, and quaternary, but is ſubtended by the quinary. The quadrangle, therefore, from the quinary, is equal to the quadrangles from the other numbers: for this is twenty-five; but the quadrangle from the ternary is nine, and from the quaternary ſixteen. And thus what we have aſſerted is perſpicuous in numbers.

But there are delivered certain methods of inventing triangles of this kind, one of which they refer to Plato, but the other to Pythagoras, as originating from odd numbers. For Pythagoras places a given odd number, as the leaſt of the ſides about the right angle, and when he has received the quadrangle produced from this number, and diminiſhed it by unity, he places the half of the remainder, as the greateſt of the ſides about the right angle; and when he has added unity to this, he produces the remaining ſide which ſubtends the right angle. Thus for example, when he has aſſumed the ternary,

nary, and has produced from it a quadrangular number, and from this number nine, has taken unity, he aſſumes the half of eight, that is four, and to this again he adds unity, and makes five; and thus diſcovers a right-angled triangle, having one of its ſides of three, but the other of four, and the other of five units. But the Platonic method originates from even numbers. For when he has aſſumed a given even number, he places it as one of the ſides about the right angle, and when he has divided this into half, and has produced a quadrangular number from the half, when he has added unity to this quadrangle, he forms the ſubtending ſide, but when he has taken unity from the quadrangle, he forms the remaining ſide about the right angle. Thus for example, when he has aſſumed the number four, and has multiplied the half of this into itſelf, and produced four, when he takes away unity he forms the number three, but when he adds unity, he produces the number five; and thus he has the ſame triangle effected, as by the Pythagoric method. For the ſquare from the number five, is equal to the ſquares from the numbers three, and four. And thus much for the digreſſion of the preſent narration. But as the demonſtration of the elementary inſtitutor is perſpicuous, I do not think, that any thing ſhould be added, becauſe it would be ſuperfluous; but we ſhould be content with what is written. For thoſe who have added any thing more, as the familiars of Hero and Pappus, have been obliged to aſſume in an affair of no difficulty, ſome of the propoſitions of the ſixth book; and the cauſe which regards this affair. We ſhall therefore paſs on to the following theorem.

PROPOSITION LXVIII. THEOREM XXXIV.

If the quadrangle deſcribed from one ſide of a triangle, is equal to the quadrangles deſcribed from the other two ſides of the triangle: then the angle comprehended by the remaining two ſides of the triangle, is right.

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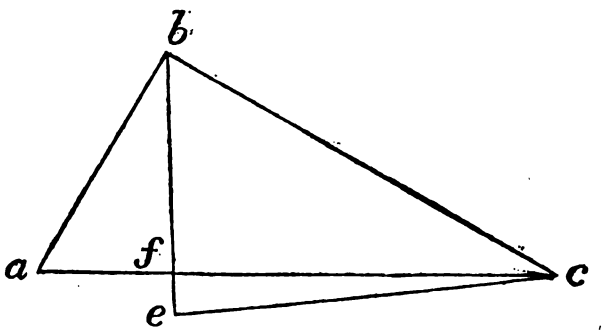
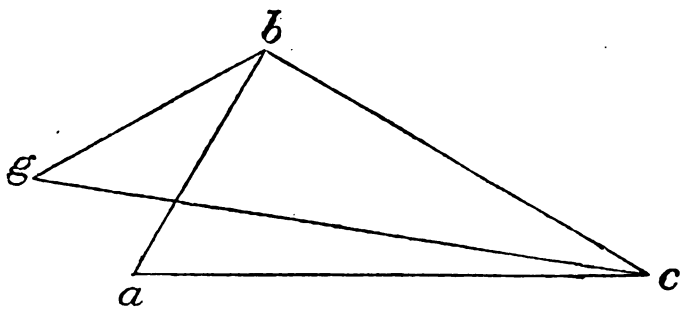
This theorem is the converſe of the preceding, and the whole is converted to the whole. For if the triangle is rectangular, the quadrangle which is deſcribed, from the ſide ſubtending the right angle, is equal to the quadrangles deſcribed from the other ſides : and if the ſquare from this, is equal to the ſquares from the other ſides, the triangle is rectangular, becauſe it has the angle right, which is comprehended by the remaining ſides. And the demonſtration of the Elementary inſtitutor is indeed conſpicuous. But when there is a tri-



angle *a b c*, having the quadrangle, which is deſcribed from the ſide *a c*, equal to the quadrangles from the ſides *a b*, *b c*, ſince in the triangle, a right line from the point *b*, is raiſed at right angles to the ſide *b c*, if it ſhould be ſaid, that the right line muſt be raiſed at right angles, to other parts, and not at thoſe to which the elementary inſtitutor raiſes it, we aſſert that this is an impoſſibility. For it can neither fall within, nor without the triangle; and can be no other than *a b*. For if poſſible, let it fall as *b e*. Becauſe, therefore, the angle *e b c*, is right, the angle *c f b*, is doubtleſs acute; and hence, the remaining angle *a f b*, will be obtuſe. The ſide, therefore, *a b*, is greater than the ſide *b f*. Let a line *b e*, be placed equal to *a b*, and connect *e c*. Becauſe, therefore, the angle *e b c*, is right, the quadrangle deſcribed from the ſide *e c*, is equal to the quadrangles from the ſides *e b*, *b c*. But *e b* is equal to *b a*. The quadrangle, therefore, from the ſide *e c*, is equal to the quadrangles from the ſides *a b*, *b c*. But the quadrangle from the ſide *a c*, was alſo equal to the ſame. Hence, the quadrangle from the ſide *e c*, is equal to that which is deſcribed from the

the ſide *a c*; and ſo *e c* is equal to *a c*. Two right lines, therefore, *b e*, *e c*, are equal to the two *b a*, *a c*, each to each, and are conſtructed upon the right line *b c*, which is impoſſible. And hence, the line raiſed at right angles, does not fall within the right line *a b*.

But neither can it fall without, towards other parts of the right line *a b*. For if poſſible, let it fall as *b g*, and let *b g* be equal to *a b*,



and connect *c g*. Becauſe, therefore, the angle *g b c*, is right, the quadrangle deſcribed from the ſide *g c*, is equal to the quadrangles from the ſides *b g*, *b c*. But the quadrangle alſo, from the ſide *a c*, was equal to the quadrangles from the ſides *a b*, *b c*, but *a b* is equal to *g b*; and ſo *g c* is equal to *a c*. But the right line *g b*, alſo, is equal to the right line *b a*, upon one right line *b c*, which is impoſſible. Hence, the right line which is raiſed from the point *b*, at right angles to *b c*, neither falls within, nor without the ſide *a b*; and therefore falls upon it. And ſo the objection is diſſolved. But the inſtitutor of the Elements, thus far completes his firſt book, in which he has delivered many ſpecies of converſions; (for he often converts the whole of theorems to the whole, and wholes to parts, and parts to parts) and has invented a great variety of problems; (for he has delivered the ſections, poſitions, conſtructions, and applications of lines and angles. He likewiſe touches upon that mathematical place which is called admirable; and ſufficiently brings local theorems into our remembrance. Beſides, he unfolds the elementary inſtitution of univerſal and particular theorems, and indicates the difference of indeterminate, and determinate problems; all which, attending him in his progreſs, we have orderly explained. Laſtly, he refers the whole

book to one purpoſe, I mean the elementary inſtitution, of the contemplation reſpecting the more ſimple rectilineal figures; and finally, he inveſtigates their conſtructions, and conſiders their eſſential properties. But we, indeed, ſhall give thanks to the gods, ſhould we be able to comment on the other books, in a ſimilar manner. In the mean time, if other cares ſhould prevent the execution of our deſign, it is my opinion, that ſuch as are ſtudious of theſe contemplations, ought to expound the other books, after the ſame mode; by inveſtigating that which is every where difficult, and pertinent to the ſubject, and capable of an eaſy diviſion. For, indeed, the commentaries which are circulated at the preſent period, are replete with great and various confuſion, becauſe, at the ſame time, they neither infer any aſſignation of cauſe, nor dialectic judgment, nor philoſophic contemplation.

END OF THE COMMENTARIES.

THE

HISTORY

OF THE

RESTORATION

OF THE

PLATONIC THEOLOGY,

By the Later PLATONISTS.

THE

HISTORY

OF THE

RESTORATION OF THE PLATONIC THEOLOGY.

By the latter PLATONISTS.

SECT I.

THE Grecian theology, the hiſtory of whoſe reſtoration by the latter Platoniſts is the deſign of the preſent diſſertation, did not originate among the Greeks, but was the progeny of barbarian propagation. This will be evident by conſidering that Orpheus was a Thracian; Thales, a Phœnician; Hermes Triſmegiſtus, an Egyptian; Zoroaſter, a Perſian; Anacharſis, a Scythian; and Pherecydes, a Syrian. Yet though Greece was not the parent of theology, ſhe was notwithſtanding her benevolent nurſe, by whom ſhe was kindly educated, and received the full perfection of her nature. Indeed, though illuſtrious men flouriſhed in the Eaſt, and theology was there particularly cultivated, yet her education was limited and rough, entangled with inexplicable ceremonies, and guarded by the ſanctity of inviolable oaths. But when ſhe was removed into the Grecian ſoil, and experienced the happy temperature of its climate, her genius became both elegant and profound; her perſon magnificent and graceful; and her ceremonies rational and ſublime. Particular nations, indeed, ſeem to have been diſtinguiſhed for particular purſuits. Thus the Egyptians appear to have excelled in the powers of invention; and the Eaſt, in general, has been remarkable for its attachment to the moſt recondite and myſtic philoſophy. Thus the Romans were famous for the arts of eloquence and war; and the Greeks have ever been celebrated as a people by whom every branch of knowledge received its ultimate perfection. They were a nation equally favoured by the graces, the muſes, and philoſophy; whoſe celeſtial union formed the divine genius of Homer, and inſpired that elegance and depth with which the

the works of Plato are replete. They were, in ſhort, the ſtandards of excellence to the ancient, and are the objects of imitation to the enlightened part of the preſent world; and their theology, as well as their arts, will be admired when modern ſyſtems are no more.

It appears at firſt view ſtrange that this ſublime theology ſhould riſe to its priſtine perfection during the decline of the Roman empire; and at a period when a new religion (I mean the Chriſtian) was continually increaſing in reputation, and advancing with rapid ſteps to a deſpotic eſtabliſhment. But if we attentively conſider, we ſhall find that the very cauſes which apparently threatened its deſtruction were the natural and proper ſources of its renovation. As every part of the univerſe ſubſiſts by perpetual change, it is neceſſary that philoſophy and the ſciences, with reſpect to their appearance or the contrary, ſhould ſhare in the general mutability of things: but at the ſame time, it is neceſſary to their preſervation to after-ages, that the order of their revolution ſhould be retrogade to that of ſenſible particulars. Hence we ſhall often find, that while kingdoms deſcend in the circle of viciſſitude, philoſophy aſcends, and perhaps attains to her ultimate perfection, at the very period when the moſt powerful nations become extinct. Thus the falling empire of the Romans was naturally connected with the riſing greatneſs of philoſophy; and the foreign ceremonies of a new religion, were the proper means of bringing to light the ſecret myſteries of the old. We may add too, that the ſame circumſtances produced the great difference between the firſt and laſt appearance of this ſublime theology. While Greece maintained her independence unconſcious of the Roman yoke, and undiſturbed by religious invaſions, ſhe diſdained to expoſe her genuine wiſdom to vulgar inſpection, but involved it in the intricate folds of allegory; and concealed it from the profane under the dark veil of impenetrable myſtery. But when ſhe loſt her liberty and ſubmitted to foreign dominion, when her moſt ancient rites were threatned with invaſion, and her ſacred myſteries were treated with contempt, ſhe found it neceſſary to change the dreſs of theology and to ſubſtitute a ſimple and elegant garb, inſtead of one highly marvellous and myſtic.

Yet we muſt not imagine that theology, now ſtript of her ancient concealments, became the object of open inſpection to the profane and vulgar eye. She had not loſt her refulgence, though ſhe had changed her appearance: for the rays of celeſtial majeſty yet beamed from her countenance, with a light awful and terrific to the multitude, but lovely and alluring to the wiſe. Hence the ſplendors of divinity no leſs ſecured her perſon from impious curioſity than the dark ſymbols in which ſhe was formerly involved. The enchanting imagery of a celeſtial phantaſy, and the pure light of an exalted intellect, while they captivated and converted the philoſophical part of mankind, were inacceſſible to the vulgar, whoſe mental eye, yet loſt in the night of oblivion, was darkened by the ſplendid viſion. However, though the real perſon of theology was not the ob-

ject

ject of vulgar inſpection, her ſhadow at leaſt was beheld by the benighted multitude, and beceame the ſubject of ridiculous opinions, and idle inveſtigation. Hence ſome of theſe aſtoniſhed with the majeſty of her image, fondly fancied ſhe was the progeny of the Jewiſh religion; and that her ſacred myſteries were nothing but corrupt imitations of Moſaic divinity: while others, meaſuring the obſcurity of her real perſon by the darkneſs of her ſhadow, conſidered her doctrines as deluſions, and her ſublimeſt truths as the reveries of a diſtempered imagination. Thus was true theology perverted and vilified by the multitude, when ſhe appeared in her natural dreſs to mankind; till, in a few centuries after, indignant of the daring profanation, ſhe aſcended to her native heaven, and left the ſons of folly involved in the ſhades of midnight error, and the groſs deluſions of fancied inſpiration.

But let us contemplate her hiſtory more minutely, and mark the ſeveral particulars which diſtinguiſhed her appearance on the earth. Let us ſurvey the lives of the great genuiſes who ſo largely participated her celeſtial light; and who ſo admirably transfuſed it in their writings for the benefit of hitherto ungrateful poſterity. Let us view with wonder how ſhe roſe in majeſty, as Rome declined in power, and appeared in full perfection inveſted with celeſtial honours, and ſurrounded with a godlike band of philoſophic heroes, while that mighty empire was rapidly diminiſhing in bulk, and on every ſide nodding to its diſſolution.

We are informed by Proclus *, that all the Grecian theology is the progeny of the myſtic diſcipline of Orpheus; and that Pythagoras was the firſt who learned the orgies of the gods from Aglaophemus the diſciple of Orpheus. This ſacred theology was fully diſplayed by Orpheus, with all the graces of poetical diction, accompanied with the fury of the muſes and divine illumination, in a great work entitled, *The Sacred Diſcourſe*, which was divided into twenty-four rhapſodies, and which has unhappily periſhed in the ruins of time. In this ineſtimable work, if we may be allowed to conjecture from a treatiſe of the ſame name compoſed by Pythagoras, and often mentioned by Syrianus, all the orders of the gods were celebrated from the higheſt principle of things, to the laſt proceſſions of the mundane divinities. But Pythagoras was no doubt deeply indebted for a part of this knowledge to the doctrine of Zoroaſter, whoſe dogmata, according to Apuleius †, he embraced, and whoſe profound myſteries involved in oracular darkneſs, we may preſume he communicated to his initiated diſciples. The whole of this recondite theology was afterwards received by Plato from the writings of Archytas, Philolaus, and other Pythagoreans, but was ſo concealed by poetical embelliſhments, and myſtical traditions, that, like the numbers of Pythagoras, it was alone adapted to the comprehenſion of a penetrating and ſagacious few.

* Ἁπασα γαρ ἡ παρ' Ἕλλεσι θεολογια τῆς Ὀρφικῆς ἐστι μυσταγωγίας ἐκγονος· πρώτου μὲν Πυθαγόρου παρὰ Ἀγλαοφήμου παραδεξαμένου τὰ περὶ θεῶν ὄργια διδαχθέντος. Procl. in Plat. Theol. p. 13.

† In Lib. ii. Florid.

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It is, however, a remarkable hiſtorical fact that this theology was loſt for many centuries among the diſciples of Plato, on the death of their divine maſter. But we are informed by Numenius * the Pythagorean that Plato's ſucceſſors, Speuſippus, Zenocrates, and Polemo, perverted his dogmata, and almoſt entirely changed the whole of his philoſophy. And Ariſtotle, it is well known, however he might retain ſome eſſential doctrines of his maſter, altered others of the higheſt importance; and confining himſelf chiefly to natural diſquiſitions, aſcended but rarely and feebly to theological contemplations. However it was not irrecoverably loſt; and it diſappeared for a time, only to ſhine with brighter ſplendors on its return. Truth, like the light of the ſun, may ſuffer concealment, but cannot be deſtroyed; for it would rather have its rays broken by reſiſtance than bound to obſcurity. About two hundred and fifty two years, therefore, after the Chriſtian religion had made its appearance, this ſublime theology was reſtored by one Ammonius Saccas an Alexandrian. This extraordinary perſon, was, it ſeems, at firſt nothing more than a porter: though by what methods he roſe from this ſervile employment to the ſummit of philoſophy, and what happy circumſtances firſt affected this wonderful change, are enquiries which can never be anſwered, but whoſe loſs will always be regretted by the liberal few. But though he was not Ἀνγενῆς, nobly born, his doctrines, as tranſmitted to us by his diſciples, eminently evince his poſſeſſing in high perfection all the other endowments of a true philoſopher: ſuch as a penetrating genius, a docile ſagacity, a tenacious memory, and every other ornament of the ſoul, requiſite, according to Plato, to form the philoſophic character. Indeed he muſt have poſſeſſed theſe qualifications in a moſt remarkable degree; or he could never have emerged from the obſcurity and ſervility of a porter, to the ſplendor and liberty of an exalted and divine philoſopher. The truth of this obſervation is confirmed by the appellation of Θεοδίδακτος, or *divinely-taught*, which was unanimouſly conferred on him, by his contemporary philoſophers.

This great man opened a philoſophical ſchool at Alexandria, but with a determination not to commit the more abſtruſe and theological dogmata of his philoſophy to writing. Indeed he was ſo fearful of profaning theſe ſublime myſteries, by expoſing them to vulgar inſpection, that he revealed them to his diſciples Erennius, Origen, and Plotinus, on the conditions of inviolable ſecrecy, and under the guard of irrevocable oaths. However, fortunately for poſterity, Erennius diſſolved the compact, and Origen (different from the Chriſtian father of that name), imitating Erennius, diſcloſed a part of his maſter's ſecrets, in a curious treatiſe on dæmons, which, among many other valuable productions, is loſt in the ruins of time. But the publications of theſe two great men were but trifling efforts to unveil the myſtic wiſdom of antiquity: ſince a perfect revelation was reſerved for the divine genius of Plotinus, who conſider-

‡ Euſeb. Prepar. Evang. lib. xiv.

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ing himſelf now freed from his engagements, by the examples of his fellow diſciples, reſolved to bring theology from her dark concealments and to preſent her to the aſtoniſhed world, in all the celeſtial graces and irreſiſtible majeſty of her natural appearance. This wonderful man (if he was not ſomething more, ſince his writings diſdiſcover a genius ſuperior to the human), who was born to aſtoniſh and enlighten mankind, was the firſt who committed to writing the ſecrets of theology, free from the obſcure enigmas in which ſhe had been enveloped by the ſages of antiquity. The celeſtial vigor and profundity of his genius, render his conceptions indeed, unavoidably abſtruſe: but he who has once fathomed his depth, will find himſelf amply compenſated for the labour of inveſtigation, by the rewards of uncommon knowledge and inexpreſſible delight. There is a long and curious life of this high prieſt of theology, and dæmon of wiſdom, extant by his diſciple Porphyry, the ſubſtance of which, as it will not I preſume be unacceptable to the reader, and as it will throw great light on the hiſtory of theology, I have ſelected from that invaluable work.

Plotinus, was an Egyptian by birth, and was a native of Lycopolis, as we are informed by Eunapius, for Porphyry is wholly ſilent as to this particular. Indeed this is not wonderful, if we conſider what Porphyry aſſerts in the beginning of his life, *that he was aſhamed, that his ſoul was in body.* Hence ſays he, he would neither tell the race, nor the parents from which he originated, nor would he patiently relate in what country he was born. This I know will be conſidered by a genuine modern, as either rank enthuſiaſm, or groſs affectation; but he who has peruſed and fathomed his writings will immediately ſubſcribe to its truth. The ſame vehement love for intellectual purſuits, and contempt for body, made him diſdain to ſit for his picture; ſo that when one of his diſciples Amelius, begged that he would permit his likeneſs to be repreſented, his anſwer expreſſed the true greatneſs of his mind: as if (ſays he) it was not ſufficient to bear this image, with which nature has ſurrounded us from the firſt, you think that a more laſting image of this image ſhould be left as a work worthy to be inſpected. However the deſire of Amelius was at length accompliſhed, by the ingenious contrivance of one Carterius a painter, who by frequenting the ſchool of Plotinus, and viewing his countenance with fixed attention, produced at length from his memory a happy likeneſs of the philoſopher. Though he was often afflicted with the colic, he always refuſed the aſſiſtance of clyſters, aſſerting that cures of this kind were not proper to a man advanced in years. Nor would he ever receive the aſſiſtance of theriacal antidotes, ſince he ſaid, his nouriſhment was not derived from the bodies of even tamer animals. He likewiſe abſtained from baths: but daily uſed frictions at home. But when a grievous peſtilence raged † at Rome, and the ſervants who were accuſtomed to rub him,

† This peſtilence was in the time of the emperor Gallienus, and raged ſo vehemently, according to Trebellius Pollio, that five thouſand men periſhed with an equal diſeaſe in one day. This happened in the year of Chriſt 262, and of Galienus 9, or 10; and not long after Porphyry applied himſelf to Plotinus. Fabricius.

fell victims to the diſeaſe, from neglecting cures of this kind, he gradually became a prey to the peſtilence. So great was the violence of this diſtemper, and its effects ſo dreadful on Plotinus, as Euſtochius informed Porphyry who was abſent, that through a very great hoarſeneſs, all the clear, and ſonorous vigour of his muſical voice was loſt; and what was ſtill worſe, his eyes were darkened, and his hands and feet were covered with ulcers. Hence, becoming incapable of receiving the ſalutations of his friends, he left the city; and went to Campania, to the eſtate of one Zethus, an ancient departed friend. Neceſſaries were here adminiſtered to him from the hereditary poſſeſſions of Zethus, and were likewiſe brought from Minturnus, from the fields of Caſtricius*. But when this divine man drew near to his diſſolution, that period which is no leſs the dread of the vulgar than the tranſport of the philoſopher, and which to Plotinus muſt be the moment of extatic rapture, Euſtochius who dwelt at Puteolus, was not very haſty in his approaches; doubtleſs not imagining he was on the point of making his triumphant exit from a corporeal life. However when he came into the preſence of this departing hero, he was juſt in time to receive his dying words, and to preſerve the ſacred ſentence to poſterity. Liſten ye profane with reverence, and treaſure in your memories ye wiſe, the weighty truth it contains! *As yet* (ſays he) *I have expected you; and now I conſent that my divine part, may return to that divine nature, which flouriſhes throughout the univerſe.* Such were the laſt words of this mighty man, which like thoſe contained in his writings are great and uncommon, wonderful and ſublime. He died at the concluſion of the ſecond year of the emperor Claudius' reign; and was at the time of his death in the ſixty-ſixth year of his age, according to the information given by Euſtochius to Porhpyry. The moſt trifling particulars relative to the life and death of ſo extraordinary a man merit our attention; and indeed we may preſume without being guilty of either ſuperſtition or enthuſiaſm, that ſcarcely any thing trifling could mark the exiſtence of ſuch a powerful and celeſtial genius. There is nothing, properly ſpeaking, can be little which has any relation to a character truly great: for ſuch is the power of uncommon genius, that it confers conſequence on every thing within the ſphere of its attraction, and renders every ſurrounding circumſtance ſignificant and important. Thus immediately on the death of Plotinus, we are informed by Porphyry that a dragon ‡ which had been concealed under his bed, wandered through a hole in the wall, and diſappeared. But how great muſt the grief of Porphyry have been, to be ſeparated from his beloved maſter, at the time of his death: from a maſter by whom he had been eſteemed beyond the reſt of his fellow-diſciples; and whoſe loſs no ſucceeding period was ever likely to repair. Indeed his diſciples ſeem to have been unaccountably diſperſed, at this important criſis: for Porphyry was at Lilybæum, Amelius at Apamea in

* This is the Firmus Caſtricius to whom Porphyry inſcribes his books on Abſtinence.

‡ This was probably nothing more than a ſmall ſerpent reſembling the form of a dragon.

Syria,

Syria, Caſtricius at Rome, and Euſtochius was alone preſent at his departure. Porphyry afterwards informs us, in perfect agreement with the genius of Plotinus, that he never would tell to any one, the month, or day in which he was born: becauſe he by no means thought it proper that his nativity ſhould be celebrated with ſacrifices and banquets. Indeed we cannot ſuppoſe that he who had ſuch a vehement contempt for a corporeal life, would be anxious that his entrance into mortality ſhould be ſolemnized with feſtivity; but rather conſidering himſelf with Empedocles, as

"Heaven's exile ſtraying from the orb of light,"

he would be diſpoſed to lament his captivity, and mourn the degradation of his nature. However he was not averſe to celebrate the nativities of Socrates and Plato; for he aſſiſted at the ſacred rites, and invited his friends to a philoſophic banquet, were it was required that every gueſt ſhould recite a written oration, adapted to the occaſion of their amicable aſſociation.

But the few particulars which this great man condeſcended to relate of himſelf, in familiar diſcourſe, are the following: When he was eight years of age, and was even under the tuition of a literary preceptor, he uſed to frequent his nurſe, and to uncover her breaſts, through an avidity of ſucking her milk. And this cuſtom he continued, till being accuſed of troubleſomneſs, and covered with ſhame through the reproof, he neglected this extraordinary cuſtom. This ſtory however trifling it may appear, indicates in my opinion the native innocence, and genuine ſimplicity of manners which marked the character of Plotinus. It is a circumſtance, which does not merely point to ſomething uncommon; but it was the harbinger as it were of that purity and ſanctity of life, which ſo eminently formed the conduct, and adorned the writings of our philoſopher. But when he was in the twenty-eighth year of his age, being vehemently inflamed with the love of philoſophy, he was recommended to the moſt excellent maſters of Alexandria: but he left their ſchools with ſorrow and diſappointment. By a fortunate event, however, he told a certain friend, who was well acquainted with the diſpoſition of his mind, the cauſe of his affliction, and he brought him to the celebrated Ammonius, whoſe ſchool Plotinus had probably overlooked among the great multitude with which that illuſtrious city abounded. But when he had entered the ſchool of Ammonius, and had heard him philoſophize, he exclaimed in tranſport to his friend, *this is the man I have been ſeeking*. From that day he gave himſelf up to Ammonius with ſedulous attention for eleven years; and made ſuch rapid advances in his philoſophy, that he determined to ſtudy the philoſophy of the Perſians, and the wiſdom particularly cultivated by the Indian ſages. For this exalted purpoſe, when the emperor Gordian marched into Perſia, in order to war upon that nation, Plotinus joined himſelf to the army, being at that time in the nine and thirtieth year of his age. But after Gor-

dian was deſtroyed about Meſopotamia, Plotinus fled to Antioch, where he received a fortunate ſhelter from the dangers and devaſtations of war; and in the reign of the emperor Philip came to Rome, in the fortieth year of his age. It ſeems therefore that Plotinus was diſappointed in his purpoſe at that time of procuring the Perſian and Indian wiſdom: it is however certain that he afterwards obtained his deſire; and moſt probably without the inconvenience of a long and dangerous journey. This will be evident from peruſing his works; and attending to the latent dogmata they contain.

It was a long time before Plotinus committed his thoughts to writing; and gave the world a copy of his inimitable mind. That light which was ſhortly to illuminate mankind, as yet ſhone with ſolitary ſplendour; or at beſt beamed only on a beloved few. It was now deſtined to emerge from its awful ſanctuary, and to diſplay its radiance with unbounded diffuſion. But a diſciple like Porphyry, was requiſite to the full perfection of its appearance. Amelius was indeed laborious, but he was at the ſame time verboſe: he neither appears to have poſſeſſed the inquiſitive ſpirit, nor the elegant genius of Porphyry; and his commentaries were too voluminous to be exquiſitely good. Porphyry gives a ſingular ſpecimen of his endurance of labour, when he informs us, that he committed to writing almoſt all the dogmata of Numenius, and retained a very conſiderable part in his memory. He was not however, though an excellent philoſopher, calculated to urge Plotinus to write, or to aſſiſt him in its proſecution: but this important taſk was reſerved for Porphyry, who in the words of Eunapius, "like a mercurial chain, let down for the benefit of mortals, by the aſſiſtance of univerſal erudition, explained every thing with clearneſs and preciſion." Plotinus indeed began to write in the firſt year of the emperor Galienus; and he continued juſt to note ſuch queſtions as occurred to him, for the ten following years, in the laſt of which he became acquainted with Porphyry, who was at that time in the thirtieth year of his age. He had then compoſed one and twenty books, which were in the hands but of a few: for the edition was difficult to be procured, and was not univerſally known. Beſides Plotinus, was neither haſty nor raſh in his publications: but he gave thoſe only to the light, which had been approved, by a mature and deliberate judgment. The one and twenty books we have previouſly mentioned, after various inſcriptions, at length obtained the following titles:

On the beautiful.
On the immortality of the ſoul.
On fate.
On the eſſence of the ſoul.
On intellect, and ideas, and being.
On the deſcent of the ſoul into body.

How

How that which is poſterior to the firſt, proceeds from the firſt; and concerning *the one.*

Whether all ſouls are one.

Concerning the good itſelf, or *the one.*

On the three principal hypoſtaſes.

On the generation and order of things poſterior to the firſt.

On the two matters, intelligible and ſenſible.

Various conſiderations.

On the circular motion of the heavens.

On every ones peculiar Dæmon.

On the rational exit, from the preſent life.

On quality.

Whether there are ideas of particulars.

On virtues.

On dialectic.

How the ſoul is ſaid to be a medium between an impartible and partible eſſence.

Theſe one and twenty books were finiſhed when Pophyry firſt became acquainted with Plotinus; and when this great man was fifty-nine years old. During the ſix years in which Porphyry was his companion as well as diſciple, many queſtions of a very abſtruſe nature, were diſcuſſed in their philoſophical converſations, which at the joint requeſt of Porphyry and Amelius, Plotinus committed to writing, and produced from their inveſtigation, two elaborate and admirable books, proving *that true being is totally preſent in every part of the univerſe.* He wrote beſides two others; one of which aſſerts, *that the nature ſuperior to being, is without intellection;* and the other *diſtinguiſhes primary from ſecondary intelligence.* He likewiſe compoſed at the ſame period, the following books:

Concerning that which exiſts in capacity, and energy.

That incorporeal natures are free from paſſivity.

Two books concerning the ſoul.

A third concerning the ſoul, or the manner in which we ſee.

On contemplation.

On intelligible beauty.

That intelligibles are not external to intellect; and concerning intellect, and the good,

Againſt the Gnoſtics.

* It is ſtrange that Fabricius ſhould think it ought to be entitled περὶ τῆς ἀπαθείας τῶν σωμάτων: for he who reads this book muſt ſee that ſuch a title would be ridiculous. Vide Bibl. Grec. tom. iv. p. 143.

On

On numbers.
Why things ſeen at a diſtance appear ſmall.
Whether felicity conſiſts in length of time.
Concerning total mixture.
How the multitude of ideas ſubſiſts, and concerning the good.
On that which is voluntary.
On the world.
On ſenſe and memory.
Three books on the genera of beings.
On eternity and time.

But while Porphyry reſided in Sicily, Plotinus compoſed the five following books, which he ſent to him for his reviſion:

On felicity.
Two books on providence.
On gnoſtic eſſences, and that which is ſuperior to their nature.
On love.

Theſe books were tranſmitted to Porphyry in the firſt year of the emperor Claudius' reign. And about the beginning of the ſecond year, a little before his death, he ſent him the following, and the laſt:

An enquiry into evil.
Whether the ſtars operate on ſublunary natures.
What the nature is of man, and animal.
On the firſt good, and other goods.

The whole amount therefore of the books written by Plotinus, connecting the preceding with the preſent, is fifty-four, which Porphyry has divided into ſix enneads, aſſigning agreeable to the meaning of the word, nine books to every ennead. But they bear evident marks (ſays Porphyry) of the different periods, at which they were compoſed. For the firſt one and twenty, which were written in the former part of his life, if compared with the next in order ſeem to poſſeſs an inferior power, and to be deficient in ſtrength. But thoſe compoſed in the middle of his life exhibit the vigour of power, and the ſummit of perfection. And ſuch with a few exceptions are the four and twenty we have already enumerated. But the laſt nine, compoſed in the decline of life, carry the marks of remitted energy, and drooping vigor. And this the four laſt declare, more evidently than the preceding five. It muſt however be obſerved that this difference is only viſible, when they are contraſted with one another. To an impartial obſerver, zealous of truth, and not deeply read in Plotinus, each of his books will appear

to

to be what it really is, uncommonly profound, and inimitably ſublime. Each is an oracle of wiſdom, and a treaſury of invaluable knowledge; and the gradations of excellence conſiſt in the power of compoſition, and not in the matter from which they are compoſed.

Plotinus had many auditors, and likewiſe a multitude of zealous partizans, and philoſophic familiars. This indeed muſt neceſſarily be the caſe, if we conſider the reputation of philoſophy at that golden period, and the extraordinary abilities and celeſtial genius of its godlike reſtorer. Among the latter of theſe, Amelius the Tuſcan, and Paulinus the Scythopolitan, a phyſician, held a diſtinguiſhed rank. To which may be added Euſtochius of Alexandria, a phyſician, who enjoyed the familiarity of Plotinus to the laſt, was preſent at his death, and giving himſelf entirely to the inſtitutes of Plotinus, aſſumed the habit of a genuine philoſopher. Beſides theſe, Zothicus, a critic and poet, was converſant with Plotinus, who amended the works of Antimachus, and rendered the Atlantic hiſtory very poetically in verſe: but after this he became blind, and died a ſhort ſpace of time prior to Plotinus. Zethus too, was very familiar with our philoſopher, who derived his origin from Arabia, and married the wife of one Theodoſius, the familiar of Ammonius. He was deeply ſkilled in medicine, and very much beloved by Plotinus, who endeavoured to diſſuade him from engaging in the adminiſtration of public affairs. Such indeed was his familiarity with our philoſopher, that, as we have already obſerved, Plotinus ſpent the laſt hours of his life at his rural retreat. Porphyry likewiſe informs us, that not a few ſenators were the ſedulous auditors of Plotinus. Philoſophy indeed, as it is the moſt noble and liberal of all purſuits, ought never to be ſeparated from noble birth and exalted rank. It is naturally allied with every thing great, and is calculated to confer dignity, even on greatneſs itſelf. It exalts the majeſty of the monarch, ſtamps nobility with true grandeur, and raiſes the plebean to immortality. In the age of philoſophy, therefore, we cannot wonder that ſhe was reverenced by the ſenators of Rome. That illuſtrious body, even at this declining period, retained a portion of its ancient independence; and the generous ardor of unbounded liberty was not yet extinguiſhed by the frozen hand of deſpotic uſurpation. The Roman manners and *religion* were not yet deſtroyed; and nobility was not contaminated by the ſordid occupations of traffic. *Meekneſs* was not eſteemed a *virtue*, nor *merchandize* an *honour!!!* Among this illuſtrious body of men, Marcellus Orontius diligently applied himſelf to philoſophy, and made rapid advances in its attainment. This too, was the caſe with Sabinillus, and above all with the ſenator Rogatianus *. So deeply enamoured was this laſt nobleman with the charms of wiſ-

* This Rogatianus is the perſon Porphyry alludes to in his Treatiſe on Abſtinence, lib. i. p. 106, when he ſpeaks as follows. "There was once an inſtance, where a negligence of terrene concerns, and a contemplation and intuition of ſuch as are divine, expelled an articular diſeaſe, which had infeſted a certain perſon for the ſpace of eight years. So that at the very ſame time, that his ſoul was diveſted of a ſolicitous concern for riches, and material affairs, his body was freed from a troubleſome diſeaſe."

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dom, and the diſcourſes of Plotinus, and ſo attentive to the care of ſeparating his ſoul from his corporeal life, that he neglected his wealth, and ſecular affairs, diſmiſſed his ſervants, and rejected the dignities of the ſtate. Hence, when he was choſen prætor, and the lictors waited for his appearance, he neither came into public, nor regarded the duties of his office, nor dwelt in the houſe allotted for his reception: but he ſupped and ſlept with certain of his friends and familiars, and gave himſelf to abſolute retirement in the day. By this negligence and careleſſneſs of life (ſays Porphyry), from being ſo vehemently afflicted with the gout, that he was obliged to be carried in a chair, he reſumed his priſtine ſtrength and vigour. And from being ſo diſeaſed in his hands, that he could not extend them when neceſſary, he ſo recovered their uſe by philoſophic endurance, as to employ them with greater expedition than the manual mechanic. This great man, as we may ſuppoſe, poſſeſſed the principal place in the eſteem of Plotinus, who was not ſparing in his praiſe of ſo uncommon a character, and propoſed him as an illuſtrious example to the pupils of philoſophy. Happy Rogatianus! who could relinquiſh power for knowledge, and prefer the perpetual inheritance of wiſdom to the gaudy ſplendors of title, and the fleeting honours of command. Alexandrinus Serapion too, was one of his aſſociates, who was once a rhetorician, but afterwards, gave himſelf to philoſophical diſputations; though, ſhameful to relate, he was at the ſame time a ſlave to uſury, and avarice. Beſides all theſe (ſays Porphyry), he reckoned me a native of Tyre, among his moſt friendly adherents, whom he appointed to correct his writings.

The following particulars relative to compoſition are related by Porphyry of this extraordinary man. He could by no means endure to review twice what he had written, nor even to read his compoſition, through the badneſs of his ſight. But while he was writing, he neither formed the letters with accuracy, nor exactly diſtinguiſhed the ſyllables, nor beſtowed any diligent attention on the orthography: but neglecting all theſe as trifles, he was alone intent to the intelligence of his wonderful mind; and, to the admiration of all his diſciples, perſevered in this cuſtom to the end of his life. To a man of mere words, Plotinus will doubtleſs appear inexcuſable for ſuch *important* omiſſions: but to the ſublime and contemplative genius, his negligence will be conſidered as the reſult of vehement conception, and profound cogitation. Such, indeed, was the power of his intellect, that when he had once conceived the whole diſpoſition of his thoughts from the beginning to the end, and had afterwards committed them to writing, his compoſition was ſo connected, that he appeared to be merely tranſcribing from a book. Hence he would diſcuſs his domeſtic affairs without departing from the actual intention of his mind; and at the ſame time tranſact the neceſſary negociations of friendſhip, and preſerve a perpetual intelligence of his thoughts. In conſequence of this uncommon power of intellection, when he returned to writing, after the departure of the perſon with whom he had been converſing, he did not review what he had written, owing

as we have obſerved, to the defect of his ſight; and yet he ſo connected the preceding with the ſubſequent conceptions, as if his compoſition had never been interrupted. Hence he was, at the ſame time preſent with others, and with himſelf, ſo that, as Porphyry obſerves, the ſelf-converted energy of his intellect was never remitted, except perhaps in ſleep, which he very moderately indulged. And ſo vigorous and frequent was the converſion of his ſoul to intellect, that he would often abſtain from bread, ſwallowed up, as it were, in the depths of contemplation.

Several women too, enamoured with the love of wiſdom, were the auditors of Plotinus. The Platonic philoſophy, indeed, as it neceſſarily combines truth with elegance, is naturally adapted to captivate and allure the female mind, in which the love of ſymmetry and gracefulneſs is generally predominant. Hence, in every age, except the preſent, many illuſtrious females have adorned the Platonic ſchools, by the brilliancy of their genius, and an uncommon vigour and profundity of thought. This too, would doubtleſs be the caſe in our own country, if all the works of Plato and his diſciples were but once faithfuly and elegantly tranſlated into Engliſh: but till the obſtacle of Greek is removed, we may in vain expect thinking females*, and I had almoſt ſaid Platonic philoſophers among men. Porphyry adds, that many men and women of noble birth, when at the point of death, delivered up, and commended their children and all their ſubſtance to Plotinus as to a ſacred and divine guardian. Hence, ſays he, you might ſee the houſe of Plotinus full, both of young men and virgins, among the number of which was one Potamon, whom he educated with diligence and care. Nor was he wearied in hearing the procurators of his pupils, often rendering an account of their adminiſtration; nor did he diſdain to pay attention to their expences, affirming, that as they did not yet philoſophize, they ought to poſſeſs their own goods, and to receive, without detriment, an increaſe of their eſtate. Yet though he procured for ſo many pupils the chief neceſſaries of life, the intellectual energy of his ſoul while he was awake, never ſuffered any interruption from externals, nor any remiſſion of vigour. He was extremely mild, though not *meek*†, in his manners, and was eaſy of acceſs to all his adherents and friends. Hence, ſo great was his philoſophic urbanity, that though he reſided at Rome twenty-ſix years, and had been the arbiter of many litigious cauſes, which he amicably diſſolved, yet he had no enemy throughout that great and illuſtrious city. This laſt circumſtance, indeed, reflects the higheſt honour on the philoſophic character of Plotinus; but, at the ſame time, ſome merit is due to the age in which he fortunately lived. Had he been deſtined to make his appearance in the preſent times, unſupported by fortune, and with no other recommendation than an uncommon great-

* I have, however, the happineſs of being intimate with a lady, who is a noble exception to this remark; and is both an excellent Greek ſcholar, and ſkilled in the Platonic philoſophy.

† For this is alone the virtue of traffic; and is the chief ſupport of its profeſſors.

neſs of mind, and an unequalled depth of thought; from being deſpiſed, inſulted, and diſtreſſed, he muſt ſurely have been indignant, though not moroſe, and ſevere though not agitated with wrath. He would have been ſcornful without pride, contemptuous without weakneſs, patient without ſervility, and ſolitary without affectation. He would have lived without notice, wrote with ſucceſs, and died without regret. But born to a happier fate, his genius was not doomed to languiſh in the ſhades of obſcurity, but attained to the bloſſom of perfection in the ſun-ſhine of philoſophy, and through the liberal pains of Grecian and Roman cultivation.

But though Plotinus was thus univerſally eſteemed at Rome, and in general by all who had the happineſs of his acquaintance, yet he had one vehement enemy in the perſon of Alexandrinus Olympius, who had been for a ſhort time the diſciple of Ammonius, who deſired to arrogate to himſelf the chief place in philoſophy, and endeavoured to render Plotinus the object of general contempt. So deadly, indeed, was his hatred of our philoſopher, that he attempted to invade him, by drawing down the baneful influences of the ſtars. The attempt was, however, vain, and its effects noxious to their author. For the ſidereal defluctions, inſtead of being hurtful to Plotinus, were reflected on Olympius. Hence he exclaimed to his companions, "that the ſoul of Plotinus poſſeſſed ſuch a mighty power, that it immediately repelled malignant influences directed upon his perſon, on the authors of the evil." But Plotinus, when Olympius firſt machinated his ſidereal inchantments, was conſcious of his deſign, and ſaid to his friends; "Now the body of Olympius is contracted like a purſe, and all his members are bruiſed together." After Olympius, therefore, had often found to his own detriment, that the baneful influences intended for Plotinus were repelled on himſelf, he deſiſted from ſuch baſe and fruitleſs undertakings. Indeed, ſays Porphyry, Plotinus naturally poſſeſſed ſomething greater than the reſt of mankind, which the following extraordinary relation abundantly evinces. A certain Egyptian prieſt, who at that time viſited Rome, and who became ſuddenly known to Plotinus by one of his friends (perhaps Porphyry himſelf), deſirous to exhibit his wiſdom in that illuſtrious city, perſuaded our philoſopher to attend him, for the purpoſe of beholding, through his invocations, his familiar dæmon; to which requeſt he readily conſented. But the invocation was performed in the temple of Iſis; this being the only pure place in Rome the Egyptian prieſt was able to find. However, inſtead of a dæmon, as was expected, a god approached, who was not (ſays Porphyry) in the genus of dæmons. The Egyptian aſtoniſhed at the unexpected event, exclaimed, "Happy Plotinus, who haſt a god for a dæmon, and whoſe familiar attendant does not rank among the inferior kind!" But this extraordinary and delightful viſion was of ſhort duration: for the prieſt affirmed it was not then lawful to interrogate any thing, nor any longer to enjoy the viſion, becauſe a certain common contemplative friend, who was preſent at the ſpectacle, ſuffocated

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ſome birds which he held in his hands for the ſake of ſafety, either impelled by envy, or terrified with fear. As Plotinus, therefore, was allotted a dæmon belonging to the diviner orders, the divine eye of his ſoul was perpetually elevated to this guardian deity. On this account he compoſed a book *concerning every man's familiar dæmon*, in which he diligently endeavours to aſſign the cauſes of the diverſity ſubſiſting among theſe attendants on mankind. As a ſtill farther proof of his uncommon greatneſs of mind, Porphyry adds, that when Amelius who was an obſerver of ſacred rites, in which he officiated, according to the Roman calends, once requeſted Plotinus to attend him in the diſcharge of theſe religious ceremonies, he replied, "It becomes them to approach to me, and not me to them." But from what conceptions (ſays Porphyry), he ſpoke in ſuch an exalted manner of himſelf, we were unable to conceive, and afraid to aſk. We may, however, preſume, that Plotinus meant to inſinuate the high degree of purity and perfection of his intellectual part, which rendered him ſo ſuperior to the uſe of corporeal ſacrifices, and the cultivation of material deities, and dæmons, that he ought rather to be propitiated by others, than to propitiate himſelf. For a ſoul like his, was, indeed, to uſe his own expreſſion, ὕστερος θεὸς, *a poſterior god*, ready winged for flight, and ſcarcely detained by the fetters of body. This I know will paſs for great arrogance and preſumption among the philoſophers of the preſent day, who conſider *meekneſs* and *humility* as the higheſt ornaments of their nature, and the trueſt characteriſtics of genuine worth. But ſurely a ſublime and godlike ſoul can never think *meanly* of its nature, or be willing to ſuppreſs and extinguiſh the inevitable conſciouſneſs of its own dignity and elevation. Humiliating conceptions flouriſh no where but in the breaſts of the ſervile, or the baſe; and are the ornaments of no characters, but thoſe of the impotent and the mean. Their influence is baneful to the advancement of ſcience, and deſtructive of all genuine excellence and worth. They damp the glowing ardour of true theology, curb the celeſtial flight of philoſophy, and blaſt the vigourous bloſſoms of genius. Let it, however, be remembered, that while we baniſh meekneſs, we are by no means the advocates of arrogance and conceit; but are alone deſirous of vindicating the proper dignity of the worthy ſoul, and of reſcuing its generous and ardent confidence from the frigid embraces of humiliating opinion. It is one thing to be *modeſt*, and another to be *meek*: for the former is the ſhadow attendant on genius, inſeparable from its progreſs, and the ſymbol of its reality; but the latter is the dæmon of traffic, the inſpirer of its projects, the ſupport of its credit, and the harbinger of its appearance. It flies from the face of genius like the ſhadows of night before the beams of the morning, and, terrified at the approach of the elevated mind, hides itſelf in the dark retreats of trembling puſillanimity. But to return from this digreſſion: Plotinus appears to have poſſeſſed an unequalled ſkill in phyſiognomy, as the following circumſtance eminently evinces. A lady, named Chion, who, together with her daughters reſided in his houſe, and there

happily paſſed a chaſte widowhood, was fradulently deprived of a very valuable necklace. In conſequence of this, all the ſervants and domeſtics were ſummoned into the preſence of Plotinus, who regarded their ſeveral countenances, ſelected one, and accuſed him of the theft. The man was immediately chaſtiſed, and for a long time denied the fact, but at length confeſſed his guilt, and reſtored the necklace. In a ſimilar manner (ſays Porphyry) he wonderfully predicted the deſtiny of the young men of his acquaintance; as of one Polemo, he foretold, that he would be very much addicted to love, and not arrive to the maturity of his age, which happened according to his prediction. But the laſt inſtance of his ſagacity, related by Porphyry, excels all the reſt, both in the ſingular ſkill diſplayed in its execution, and the happy conſequences it produced. Porphyry, as we are informed by Eunapius, in his life, on his firſt acquaintance with Plotinus, bade a final farewel to all his preceptors, and totally applied himſelf to the friendſhip and confidence of this wonderful man. Here he filled his mind with ſcience, and drew abundantly, without ſatiety, from the perennial fountain, ſeated in the ſanctuary of the ſoul of Plotinus. But afterwards being conquered, as it were, by the magnitude of his doctrines, he conceived a hatred of body, and human nature, and could no longer endure the fetters of mortality. "Hence (ſays Porphyry) I formed an intention of deſtroying myſelf, which Plotinus wonderfully perceived, and as I was walking home, ſtood before me, and ſaid, *Your preſent deſign, O Porphyry, is not the dictate of a ſound intellect, but rather of a ſoul raging with an atrabilious fury.* In conſequence of this, he ordered me to depart from Rome, and accordingly I went into Sicily, particularly when I heard that a certain worthy and elegant man dwelt at that time about Lilybæum. And by this means, indeed, I was liberated from this perturbation of ſoul, but was in the mean time hindered from being with Plotinus till his death."

But the great reputation of this divine man was not confined to the ſenate and people of Rome, for the emperor Galienus, and his wife Salonina, honoured his perſon, and reverenced his doctrine. Indeed, ſo highly was he eſteemed by the emperor, that, relying on his benevolence, he requeſted that a city in Campania, which had been formerly deſtroyed, might be reſtored, and rendered a fit habitation for philoſophers; and beſides this, that it might be governed by the laws of Plato, and called Platonopolis. Had this deſign ſucceeded, Plotinus intended to have dwelt there with all his diſciples, and to have realized the beautiful republic, conceived by the godlike genius of Plato. The emperor, indeed, aſſented to his wiſhes, and the philoſopher would have eaſily accompliſhed his intentions, if ſome of the emperor's familars, impelled by envy or indignation, or ſome other injuſt and ſelfiſh cauſe, had not warmly oppoſed its execution.

This extraordinary man (as we are informed by Porphyry) was ſtrenuous in diſcourſe, ſagacious in invention, and prompt in the moſt opportune perceptions: but he was frequently incorrect in his ſpeech, as well as in writing; and this moſt probably owing to the

the vehemence and vigour of his conceptions. Beſides this, while he was engaged in diſcourſe, his intellect beamed through his corporeal frame, and diffuſed over his countenance its intimate light. He was, indeed, of a moſt beautiful aſpect, but when he diſputed (ſays Porphyry) he ſeemed far more lovely to the view. Then a placid gentleneſs appeared in receiving queſtions; and a vigour uncommonly robuſt was demonſtrated in their diſſolution. When Porphyry once had interrogated him for three days, *by what means principally the ſoul was united with the body*, he perſevered in demonſtrating the manner of its conjunction. And when a certain perſon, named Thaumaſius, entered his ſchool, for the purpoſe of diſcuſſing common queſtions in philoſophy, and premiſed that he wiſhed to hear the explanatory ſentences of Plotinus, but that the queſtions and anſwers of Porphyry were by no means adapted to a diſputation of this kind, Plotinus replied: *unleſs we diſſolve the doubts ariſing from the interrogations of Porphyry, we ſhall not be able to comment any thing, in an unterrupted ſeries of diſcourſe.* But he wrote with a moſt intenſe acuteneſs of thought, and an abundant intellect. His writings are remarkably ſententious, and he abounds, every where, more with profundity of ſenſe than copiouſneſs of words. "He poured forth (ſays Porphyry many things agitated by the impulſe of inſpiring deity; and was often wonderfully affected with the object of his inveſtigation." With me indeed every page of his works is a *volume*, and every ſentence an *oracle*. The latent dogmata of the Stoics, and Peripatetics, are inſerted in his books; and more particularly the Sentences of Ariſtotle poſterior to his Phyſics. He was ignorant of nothing pertaining to geometry, arithmetic, optics, and muſic, though he had never reduced theſe ſciences to practice. The commentaries of the Platonic philoſophers, Cronius, Numenius, Gaius, Atticus; as alſo of the Peripatetics, Aſpaſius, Alexander, Adraſtus, &c. were read in his ſchools: but nothing was repeated from theſe in an uninterrupted ſeries. For his conceptions were entirely his own; and his contemplations were different from theirs. In interpretation, and the diſcuſſion of queſtions, he bore the intellect of Ammonius. As ſoon as he was ſufficiently imbued with reading, and had given, in a ſhort diſcourſe, ſentences full of profound contemplation he aroſe, and left the ſchool. Having once read the book of Longinus concerning principles, he ſaid, *that Longinus was indeed a philologiſt, but by no means a philoſopher;* and this indeed, as it appears to me, by a neceſſary conſequence: for the knowledge of *words* is entirely foreign from the ſtudy of *things*. When Origen (not the Chriſtian father of that name) once came into his ſchool, Plotinus whoſe cheeks were covered with bluſhes, wiſhed to riſe, and being ſollicited by Origen to continue his diſcourſe, he replied "that diſcourſe ought to ceaſe, when he who ſpeaks perceives he addreſſes himſelf to thoſe who are well acquainted with his doctrine." And thus after a ſhort diſſertation he aroſe from thence.

When in the celebration of Plato's nativity, Porphyry recited a poem *on the sacred marriage* *, and a certain person who was present objected that Porphyry was mad, because many things were said in the poem mystically, and inspired by a divine fury, Plotinus openly exclaimed, " You have shewn yourself at the same time both a philosopher and a priest." On a certain time too an orator, named Diophanes, read an apology for the intoxicated Alcibiades in the banquet of Plato, endeavouring to prove that it was proper for the sake of learning virtue that the lover should expose himself to the object of his attachment, and not even refuse venereal congress. But while he was reading this licentious defence, Plotinus often rose from his seat, as if he would suddenly leave the assembly: but he restrained himself till it was finished. However, when he left the company, he commanded Porphyry to confute the oration. But when Porphyry desired the orator to lend him his discourse, for this purpose, and was refused, he answered him from recollection, and delivered his answer in the presence of the same auditors as had attended Diophanes. On this occasion Plotinus was so much rejoiced, that he often repeated in the assembly

" Thus write, and you'll illuminate mankind †."

Our philosopher too, applied himself to the rules of astronomy, though (says Porphyry) not according to a very mathematical mode. That is, as we may presume, he very little regarded the calculation of eclipses, or measuring the distance of the sun and moon from the earth, or determining the magnitudes and velocities of the planets: for he doubtless considered employments of this kind as more the province of the mathematician than of the profound and intellectual philosopher. The mathematical sciences are indeed the proper *means* of acquiring wisdom, but they ought never to be considered as its *end*. They are the bridge as it were between sense and intellect, by which we may safely pass through the night of oblivion over the dark and stormy ocean of matter, to the lucid regions of the intelligible world: and he who is desirous of returning to his true country will speedily pass over this bridge, without making any needless delays in his passage. Plotinus also diligently applied himself to the judgments of the astrologers; but when he found that their predictions were not worthy of belief, he often confuted their presages in his writings.

At that time there were many Christians, and likewise some heathens, who forsaking the ancient philosophers, became the followers of Adelphius and Aquilinus. These men circulated a variety of books of Alexander, Libycus, Philocomus, Demostratus,

* Concerning the Ἱεροὶ Γαμοὶ, or holy marriages, which were first celebrated by the Orphic Theologers, see the note to the hymn to Proserpine, in my translation of the Orphic Initiations.

† A line somewhat altered from Homer. The original is βάλλ' οὕτως αἴκεν τι φόως Δαναοῖσι γένηαι. Illiad. 8. l. 282.

Lydus;

Lydus; and openly exhibited certain revelations of Zoroaſter, Zoſtrianus, Nichoteus, Allogenes, Meſus, with others of a ſimilar kind. By this means they deceived many, and were themſelves deceived, aſſerting that Plato had by no means penetrated the depth of an intelligible eſſence. On this occaſion, Plotinus urged many arguments in his diſputations againſt theſe impoſtors, and compoſed a book in confutation of their tenets, inſcribed, *againſt the Gnoſtics*, leaving a farther diſcuſſion of their errors to the labours of his diſciples. Hence Amelius compoſed forty books againſt the book of Zoſtrianus; and Porphyry ſhewed by a variety of arguments, that the writings which they attributed to Zoroaſter, were adulterated and recent, and were compoſed by the propagators of the hereſy, that their inſtitutions might paſs for the genuine doctrines of the ancient Zoroaſter.

Many of the Greeks (ſays Porphyry) falſly accuſed Plotinus of privately uſurping the doctrines of Numenius, which calumny Tryphon, a Stoic and Platoniſt, told to Amelius. On this occaſion Amelius compoſed a book, inſcribed by Porphyry; *Concerning the difference between the dogmata of Plotinus and Numenius*, which he dedicated to Porphyry. Every one of the books, indeed, of this great man bear ſuch evident marks of original thought, and ſingular depth, the execution in each is ſo ſimilar, and the conceptions ſo uncommonly abſtruſe, that no one can underſtand his meaning, and believe him indebted to the labours of others. Porphyry adds, that he was likewiſe conſidered by a many as a mere trifler, and treated with contempt, becauſe ſays he they could by no means comprehend his ſayings. Beſides the manners of Plotinus contributed to produce and increaſe this diſdain, for he was foreign (ſays Poryhyry) from all ſophiſtical oſtentation, and pride; and conducted himſelf in the company of diſputants, with the ſame freedom and eaſe as in his familiar diſcourſes. With the ſuperficial and the vain, a haughty carriage and ſevere aſpect are conſidered as the badges of wiſdom: but nothing in reality is more foreign from its poſſeſſion. For true wiſdom when it is deeply poſſeſſed gives affability and modeſty to the manners, illumines the countenance with a divine ſerenity, and diffuſes over the whole external form an air of dignity and eaſe. Add to this, that Plotinus did not haſtily diſcloſe to every one, the ſyllogiſtic neceſſities, which were latent in his diſcourſe. "The ſame thing (ſays Porphyry) happened to me, when I firſt heard Plotinus. On which account I endeavoured to provoke him, by writing againſt him, endeavouring to ſhew *that intellections are not external to intellect*." But after the writings of Porphyry on this ſubject were read to Plotinus, he ſaid, ſmiling; "It muſt be your employment Amelius, to diſſolve theſe doubts, occaſioned by his ignorance of our opinion." After Amelius, therefore, had compoſed no ſmall book againſt the objections of Porphyry, and Porphyry had again contradicted his writings, and was once more anſwered by Amelius: "At length (ſays Porphyry) having ſcarcely after all theſe attempts fathomed the depth of Plotinus, I changed my opinion, wrote a recantation of my error, which I recited in a general aſſembly, conſidered the books of Plotinus ever after as moſt worthy of belief, and provoked my maſter by every poſſible

poſſible means to diſcloſe his opinion in a more particular and copious manner." This relation is a moſt egregious inſtance of the unequalled profundity, as well as excellence of Plotinus's writings: for who will preſume to queſtion the merit of compoſition, which was at firſt ſo difficult to be comprehended, and afterwards ſo greatly admired by ſuch a genius as Porphyry? By a genius equally accurate, elegant and profound, who knew how to combine the Graces with Philoſophy and Science, and to adorn the majeſtic brows of truth with the flowers of enchanting elocution.

But the teſtimony of the celebrated Longinus concerning our philoſopher, ſufficiently evinces his uncommon excellence and worth; and in the preſent age will probably be more eſteemed than the eulogium of Porphyry. In a letter, therefore, which he wrote to Porphyry deſiring him to come from Sicily into Phœnicia where he reſided, and to bring with him the books of Plotinus, he writes among other things as follows: Theſe books (meaning thoſe of Plotinus) are not moderately faulty, ſo that I have no means of uſing them, though I deſire above meaſure to conſider what Plotinus has written concerning the *ſoul*, and on *being*." And again: "Do not ſend theſe books but bring them with you, and not theſe alone, but any others which may have eſcaped the notice of Amelius. *For why ſhould I not enquire, with the greateſt diligence, after the writings of this man, which deſerve the higheſt honour and veneration?* This indeed I have always ſignified to you, both when preſent and abſent, and when you reſided at Tyre, that I could not underſtand many of the hypotheſes of Plotinus's books, *but that I immoderately loved and reverenced the manner of his writing, the denſity of his conceptions, and the very philoſophic diſpoſition of his queſtions. And indeed I judge that the inveſtigators of truth ought only to compare the books of Plotinus with the moſt excellent works.*"

This teſtimony of Longinus is the more remarkable, as, prior to this, he had for a long time deſpiſed our philoſpher, through the ignorant aſperſions of others. The wonderful genius of Plotinus, was indeed ſo concealed under the garb of modeſty, that before fame had announced his worth, it was only viſible to a penetrating and ſagacious few. But Longinus (ſays Porphyry) thought the works of Plotinus which he had received from Amelius incorrect, through the fault of the tranſcribers, becauſe he was unacquainted with his uſual elocution: for if any, the books in the poſſeſſion of Amelius were correct, becauſe they were tranſcribed from the manuſcripts of Plotinus. Porphyry has likewiſe preſerved the preface of a book compoſed by Longinus, inſcribed, *concerning the end*, and dedicated to Plotinus and Amelius, in the courſe of which he thus ſpeaks of our philoſopher." "*Plotinus and Gentilianus Amelius are replete with a copiouſneſs of propoſitions, which they ſtudiouſly diſcuſs, and have ſeriouſly choſen the employment of writing, uſing a mode of contemplation peculiar, and their own. And Plotinus indeed, as it ſeems, has more certainly explained the Pythagoric and Platonic principles than his predeceſſors. For the writings of Numenius, Cronius, Moderatus, and Thraſyllus, are not to be compared, for accurac iny any part, with the books of Plotinus on the ſame ſubjects.*"

If

If ſuch then is the deciſion of Longinus concerning the abilities and writings of this extraordinary man: of Longinus who is celebrated by one of our firſt poets, as *inſpired by all the Nine*; and whoſe literary reputation is univerſal; what judgment muſt we form of the philoſophic taſte of the preſent age, when we find that the very name of Plotinus is known but to a few, and his works ſcarcely to any? The inference is obvious: let the reader draw it, and lament. But (ſays Porphyry), if it be requiſite to employ the teſtimony of the wiſe, who is wiſer than a god? Than a god, who truly ſaid of himſelf:

* The number of the ſands is known to me,
And the broad meaſure of the mighty ſea.
I know the thoughts within the dumb conceal'd,
And words I hear, by language unreveal'd.

And this is no other than Apollo, who when Amelius enquired, where the ſoul of Plotinus had emigrated, anſwered in divine numbers, as follows:

To ſtrains immortal full of heav'nly fire,
My harp I tune well ſtrung with vocal wire;
Dear to divinity a friend I praiſe,
Who claims thoſe notes a god alone can raiſe.
For him a god in verſe mellifluous ſings,
And beats with golden rod the trembling ſtrings.
Be preſent Muſes and with general voice
And all the powers of harmony rejoice;
Let all the meaſures of your art be try'd,
In rapt'rous ſounds, as when Achilles dy'd:
When Homer's melody the band inſpir'd,
And god like furies every boſom fir'd.
And lo! the ſacred choir of Muſes join,
And in one general hymn their notes combine.
I Phœbus in the midſt to whom belong
The ſacred pow'rs of verſe, begin the ſong.
Genius ſublime! once bound in mortal ties,
A dæmon now and more than mortals wiſe;
Freed from thoſe members that with deadly weight
And ſtormy whirl inchain'd they ſoul of late:
O'er lifes rough ocean thou haſt gain'd that ſhore,
Where ſtorms moleſt, and change impairs no more;

* In the original. Οἶδα δ' ἐγὼ ψάμμου τ'ἀριθμὸν, ἠ μετρα θαλασσης,
Καὶ κωφῶ ξυνίημι, καὶ ὐ λαλίοντος ἀκουω.

And ſtruggling through its deeps with vig'rous mind,
Paſs'd the dark ſtream, and left baſe ſouls behind.
Plac'd where no darkneſs ever can obſcure,
Where nothing enters ſenſual and impure;
Where ſhines eternal minds unclouded ray,
And gilds the realms of intellectual day.
Oft merg'd in matter by ſtrong leaps you try'd,
To bound aloft, and caſt its folds aſide;
To ſhun the bitter ſtream of ſanguine life,
Its whirls of ſorrow, and its ſtorms of ſtrife.
While in the middle of its boiſt'rous waves,
Thy ſoul robuſt, the deeps deaf tumult braves;
Oft beaming from the gods thy piercing ſight,
Beheld in paths oblique a heav'nly light:
Whence rapt from ſenſe with energy divine,
Before thy eyes immortal ſplendors ſhine;
Whoſe plenteous rays in darkneſs moſt profound,
Thyſteps dire cted and illumin'd round.
Nor was the viſion like the dreams of ſleep,
But ſeen while vigilant you brave the deep;
While from your eyes you ſhake the gloom of night,
The glorious proſpects burſt upon your ſight:
Proſpects, beheld but rarely by the wiſe,
Tho' men divine, and fav'rites of the ſkies.
But now ſet free from the lethargic folds,
By which th' indignant ſoul dark matter holds;
The natal bonds deſerted, now you ſoar,
And rank with Dæmon forms a man no more.
In that bleſt realm where love and friendſhip reign,
And pleaſures ever dwell unmixt with pain;
Where ſtreams ambroſial in immortal courſe
Irriguous flow, from Deity their ſource.
No dark'ning clouds thoſe happy ſkies aſſail,
And the calm æther knows no ſtormy gale.
Supremely bleſt thy lofty ſoul abides,
Where Minos and his brother judge preſides;
Juſt Æacus, and Plato the divine,
And fair Pythag'ras there exalted ſhine;

With

With other ſouls who form the general choir,
Of love immortal, and of pure deſire;
And who one common ſtation are aſſign'd,
With Genii of the moſt exalted kind.
Thrice happy thou! who life's long labours paſt,
With holy Dæmons doſt reſide at laſt:
From body looſen'd, and from cares at reſt,
Thy life perpetual, and divine thy feaſt.
Now ev'ry Muſe who for Plotinus ſings,
Here ceaſe with me to tune the warbling ſtrings;
For thus my golden harp with art divine,
Has told, Plotinus! endleſs bliſs is thine.

"According to this oracle then (ſays Porphyry) Plotinus was worthy, and mild, gentle and endearing, and ſuch as we found him to be by invariable experience. And again, it aſſerts that he was vigilant, endued with a purified ſoul, and always elevated to divinity, which he ardently loved. Likewiſe that he endeavoured by exerting all his powers to emerge from the bitter waters of this ſanguine life. Hence when by the aſſiſtance of this bleſſed light, he had often raiſed himſelf by intellectual conceptions, to that firſt god who is ſuperior to intellect, and had aſcended according to all the gradations in the banquet of Plato to an union with his ineffable nature, this ſupreme principle ſuddenly appeared to him, neither poſſeſſing any form, nor any idea, but eſtabliſhed above intellect, and every intelligible eſſence. And to this ſupreme god I Porphyry once approached, and was united with his nature, when I was ſixty-eight years of age. The end of life therefore appeared to Plotinus: for the end and ſcope of exiſtence to him, was a conjunction with that deity who is every where preſent. But he four times obtained this end, while I reſided with him, not in capacity, but by an ineffable energy. Beſides the oracle adds, that the gods often ſurrounding Plotinus with divine ſplendors, directed him in the right path, while they benignantly extended to his eyes abundant rays of celeſtial light: ſo that he may be ſaid to have compoſed his books from the contemplation, and intuition of divinity. But from internal and external vigilance, he is ſaid by the oracle, to have ſeen many and moſt beautiful ſpectacles, which no other philoſopher has eaſily beheld. For human contemplation may indeed have various degrees of excellence, but when compared with divine knowledge, cannot fathom a depth, ſuch as is penetrated by the gods. Hitherto the oracle ſhews, what were the energies of Plotinus, and what he obtained, while ſurrounded with body. But after his ſolution from body, it declares that he arrived at the bleſſed ſociety, where friendſhip,

ſweet deſire, joy, and love united with the deity, perpetually reign. Beſides this, how the ſons of the divinity, Minos, Rhadamanthus, and Æacus, are appointed the judges of ſouls; and that Plotinus departed to theſe, not for the purpoſe of receiving their deciſions of his conduct, but to enjoy their converſation, with whom alſo other gods of the moſt exalted order converſe. Where Plato and Pythagoras reſide, and other ſublime ſouls, who compoſe the choir of immortal love; and where the moſt bleſſed dæmons have fixed their abode. And laſtly, that the life of the inhabitants, in theſe celeſtial regions is ever flouriſhing and full of joy, and perſeveres in perpetuity of bliſs, from the benignant communications of divinity." And thus much for the life of Plotinus, who was a philoſopher unequalled for the ſtrength and profundity of his intellect, and the purity and elevation of his life. He was a being, wiſe without the uſual mixture of human darkneſs, and great without the general combination of human weakneſs and imperfection. He ſeems to have left *the orb of light*, ſolely for the benefit of mankind; that he might teach them how to repair the ruin contracted by their exile from good, and how to return to their true country, and their proper kindred and allies. I do not mean that he deſcended into mortality for the purpoſe of enlightening the vulgar part of mankind: for this would have been a vain and ridiculous attempt. The ſplendour of truth cannot be apprehended by eyes totally fixed in the dark night of oblivion; but previous to this, puniſhment muſt be inflicted, and purgation employed; the labours of Hercules muſt be accompliſhed, and the ſufferings of Ulyſſes endured. But he came as a guide to the liberal few, who are ſtruggling to gain the loſt region of light, but know not how to break the fetters by which they are detained; and who are impatient to leave the obſcure cavern of ſenſe, where all is deluſion and ſhadow, and to aſcend to the realms of intellect, where all is ſubſtance and reality.

Let us now conſider what were the principal tenets of the Platonic theology, which this extraordinary man reſtored, and illuſtrated in his writings. And, in the firſt place, he every where profoundly and copiouſly proves the ſupereſſential nature of *the one*, or the ſupreme principle of things, which is one of the principal doctrines in the Parmenides, and is more plainly aſſerted in the republic *. However prior to Plotinus †, the interpreters of Plato aſcended no higher than to intellect and being, and by this means placed a compound, and not a perfectly ſimple nature at the ſummit of the univerſe. This doctrine, which is called by Cudworth, *high-flown*, *phantaſtical*, and *unſafe*, will, I am ſure, be deemed no better than *jargon* and *reverie*, by modern philoſophers, who, ſo far from being able to conceive a cauſe ſuperior to being, ſcarcely poſſeſs a thought which is not the progeny of body and ſenſe. It is, however, ſufficient for our

* Lib. 6. † Vide Procl. in Plat. Theol. p. 89, et 90.

preſent

preſent purpoſe to prove that this is the opinion of Plato, and to ſhew how it is defended by Plotinus. In the fixth book of the Republic then, Plato moſt beautifully evinces the ſupereſſential nature of the firſt cauſe, whom he calls the good, by his analogy to the ſun, as follows. "Have you not obſerved, with reſpect to the author of the ſenſes, in how perfect a manner he has formed the power of ſight, and of being viſible? I have not entirely perceived it, replied he. But conſider it in this manner. Do hearing and ſound require any other ſpecies, in order that the one may hear, and the other be heard, which third nature when abſent, the one ſhall not hear, nor the other be heard? There is nothing, ſaid he. It appears to me, indeed, that many others (that I may not ſay none), require no ſuch third ſpecies. Or are you able to find any ſuch power? By no means. Have you not perceived that ſight, and the object of ſight, require ſuch a nature? How? When ſight is preſent with the eyes, and they are directed to viſion, when colour alſo is preſent, unleſs a third ſpecies is preſent, naturally formed for the purpoſe, the ſight will be without viſion, and the colours will be inviſible. But what do you call this? What you call light. You ſpeak the truth. Indeed, the ſenſe of ſeeing, and the power of being ſeen, are joined together by a bond the moſt honourable of all other conjunctions, and by no trifling form, if light be not diſhonourable. Whom then of the celeſtial gods can you aſſign as the cauſe of this, that light cauſes our ſight to ſee in the beſt manner, and that objects are perceived by the eyes? The ſame as you and others aſſign; for you interrogate concerning the ſun. But the ſight is thus affected with reference to this god. How? Neither is the ſight the ſun, nor is the eye in which viſion reſides the ſun. It is not. But of all the organs of ſenſe, the eye participates moſt of the ſun. Greatly ſo. Does it not preſerve the power which it poſſeſſes, as infuſed from the ſun? Entirely. Beſides, the ſun is not ſight, but its cauſe, and is on this account beheld by ſight. It is plainly ſo. This is what I called the ſon of the good, which the good generated analogous to itſelf: that as *this* in the intelligible place, is to intellect and the objects of intelligence, ſo is *that* in the viſible place to ſight. How is this? Explain yourſelf more largely. You know that the eyes as often as they are not turned towards objects whoſe colours the ſplendour of day irradiates and diſcloſes, but to ſuch as are faintly illuminated by nocturnal rays, grow dim by the viſion, and appear almoſt blind, as if perfect ſight was not reſident in their nature. So it happens. But as often as they are turned to objects which the ſun illuſtrates, they perſpicuouſly perceive, and in the very ſame eyes, ſight appears to be contained. It is ſo. Thus think alſo concerning the ſoul. For when it adheres to that in which truth, and being itſelf ſhines forth to view, then it underſtands and knows this, and appears to poſſeſs intelligence. But when it is carried to that which is mingled with darkneſs, which is generated and deſtroyed, the ſharpneſs of its ſight is blunted, it is converſant with various opinions, and it ſeems to be deſtitute of intellect. So it appears. Hence, that which affords truth to objects of intelligence, and extends the power of intellection to him who under-

underſtands, you may call the idea of the good, the cauſe of ſcience, and truth perceived by intellect. But ſince theſe two are ſo beautiful, I mean knowledge and truth, if you eſteem the good itſelf, as ſomething different from theſe, and far more beautiful, you will think in a proper manner. And, as it is proper to believe, that light and ſight poſſeſs a certain form of the ſun, but are by no means the ſun itſelf: ſo here it is proper to judge, that knowledge and truth poſſeſs a certain form of the good itſelf, but are by no means the good; for its majeſty is far more venerable and auguſt." And a little after he adds: "You may ſay therefore, that the good, not only affords to objects of knowledge the power of being known, but likewiſe diſtributes their being and eſſence, while in the mean time *the good itſelf is not eſſence, but above eſſence*, excelling it both in dignity and power."

It is plain, therefore, from the words of Plato himſelf, that he conſidered the ſupreme principle of things ſuperior to being; and conſequently this doctrine was not deviſed by the latter Platoniſts, contrary to the opinion of their divine maſter. But this is likewiſe evident from the teſtimony of Speuſippus, the immediate ſucceſſor of Plato, who, as we are informed by Proclus * confirmed this doctrines from the moſt ancient authority, and aſſerted, "that the ancients conſidered *the one*, as better than being, and that the principle of being was free from all proportion to the ſubſequent order of things, as the good itſelf is ſeparated from every condition of any particular good." To this moſt reſpectable evidence we may alſo add, that of the philoſopher Moderatus, who, as we are informed by Simplicius †, declares, "that, according to the Pythagoreans (from whom Plato, it muſt be obſerved, received the greater part of his philoſophy), the firſt one is above all eſſence."

This ſublime theory was ſupported by Plotinus, with all that truly philoſophic accuracy and depth, for which his writings are every where ſo remarkable. Indeed, it appears to have been his favourite topic; for he has employed conſiderable parts of many of his books in its illuſtration and defence. Nor can we wonder at his partiality for this exalted ſpeculation, if we conſider that a union with this ineffable nature, was the great aim of all his deſires, and the only end of all his ſtudies and purſuits. This was the divinely ſolitary light to which his intellectual eye was ever directed, and which ſo abundantly illumined the moſt ſecret receſſes of his ſoul. Here he diſcovered the true fountain of good, and drank deep of its perennial ſtreams. And laſtly, here he derived thoſe ineſtimable ſtores of knowledge, which he ſo fortunately tranſmitted to future generations. That the Engliſh reader, therefore, may have a ſpecimen of his inimitable writings on this abſtruſe ſubject, and may ſee ſome of the deepeſt myſteries of

* This paſſage is cited by Ficinus, in the ſecond volume of his works, p. 1186. and is, I doubt not, taken from the manuſcript Commentary of Proclus on the Parmenides.

† Ἕνος γὰρ (i. e. Moderatus) κατὰ τὰς Πυθαγορείους τὸ μὲν πρῶτον ἓν ὑπερ τὸ ὂν καὶ πᾶσαν οὐσίαν ἀποφαίνεται. Simp. in Ar. Phyſ. fol. 50.

the

the Greek theology diſcloſed, I ſhall preſent him with a paraphraſed tranſlation of two books of Plotinus: the firſt of which is inſcribed, *That Intelligibles are not external to Intellect, and concerning the Good*, and the other, *Concerning intelligible Beauty*. I have particularly choſen theſe, not only becauſe they admirably unfold the depths of the Platonic philoſophy and theology; but becauſe the firſt relates to the viſion of the *ſupreme*, explaining the wonderful manner in which it is accompliſhed; and the ſecond deſcribes the method of becoming united with the intelligible world. The Platonic reader will find in theſe books (if I have done juſtice to their divine author), inſtances of ſublimity beyond all compariſon with any other writings; and ſpecimens of a profundity of thought unequalled by any other philoſopher. I am ſenſible that the great labour I have employed in the tranſlation, will be, moſt probably, loſt on the preſent generation: but though I write with no views nor deſires of popular renown, yet I flatter myſelf with the approbation of more equitable poſterity. The fifth book, therefore, of the fifth Ennead of Plotinus is as follows:

"Is it poſſible any one can think that true intellect, poſſeſſing true being, can at any time be deceived, and believe in things which have no real exiſtence? Certainly no one. For how could it be intellect, if it is ever liable to deception? It is requiſite, therefore, that it ſhould always underſtand, and that nothing ſhould ever be concealed from it, like thoſe natures that are ſubject to oblivion. But it is likewiſe neceſſary that knowledge ſhould reſide in its eſſence, not like one imagining or doubting, or deriving information from another. Nor yet again, like knowledge collected from demonſtration. For though it is granted that ſome things are collected by demonſtration, it cannot likewiſe be denied that ſomething is of itſelf known to intellect, at the ſame time that reaſon dictates, that all knowledge is eſſential to its nature. But it is now neceſſary to enquire after what manner we muſt diſtinguiſh the eſſential knowledge of intellect, and that which it obtains by inveſtigation. Likewiſe from whence the certainty is derived to intellect, of its eſſential knowledge? From whence its faith is derived, that it is in ſuch a condition? Becauſe about things offered to the ſenſes, the belief of which appears more certain, it is uſual to doubt whether they poſſeſs their apparent nature in the ſubject things, or in certain paſſions only; where certainly the judgment of intellect, or, at leaſt, of thought, is required. For though it ſhould, perhaps, be granted, that the natures of ſenſible objects are contained in their ſubject bodies, yet what is known by ſenſe, is nothing more than an image of the object; for ſenſe cannot apprehend the thing itſelf, ſince it abides external to its perception. But intellect when it underſtands and apprehends intelligibles, if it knows theſe as ſomething different from itſelf, after what manner is it connected with them? For it may happen that it ſhall not meet with them, and conſequently that it may not underſtand: or perhaps then at laſt when it meets with them it will immediately underſtand, and thus it will not always poſſeſs intellection. And if it ſhould be ſaid, that intelligibles are conjoined with

with intellect, it remains to enquire what ſuch a conjunction means. Beſides the intellections themſelves will be certain figures: and, if this is the caſe, they will be adventitious, and nothing more than certain pulſations. But after what manner will intellect be figured; and what will be the form of intelligibles? Laſtly, from this hypotheſis intelligence will be like ſenſe, a perception of externals. After what manner then do theſe diſagree among themſelves? Shall we ſay in this, that one of them comprehends leſſer concerns? Alſo, how can intellect know that it perceives ſomething in reality? Or how will it be able to judge that this is good, or beautiful, or juſt? For every one of theſe will be different from intellect, nor will it contain the principles of judging by which it believes, but theſe alſo will be external to its eſſence; and in the ſame manner truth. Again, intelligibles themſelves, are either deſtitute of ſenſe, life and intellect, or they poſſeſs intellect. If they poſſeſs intellect, they will equally contain both, and this will be the true and firſt intellect. But of this alſo we enquire how it contains truth, intelligible itſelf, and intellect. Whether ſubſiſting in the ſame and together, or in ſome other manner? But if intelligibles themſelves are deſtitute of intellect and life, we muſt enquire what they are. For they are neither certain propoſitions, nor axioms, nor dictions. For if this were the caſe they would affirm ſomething of other things, but would not be things themſelves: as if they ſhould ſay, that what is juſt is beautiful, when at the ſame time juſtice itſelf is different from the beautiful itſelf. But if they ſhould conſider as ſimple eſſences, the juſt itſelf, and the beautiful itſelf, apart from each other: in the firſt place, intelligible itſelf will not be a certain one; but every intelligible will be ſeparate from others. In which caſe we muſt enquire where they are, and in what places they are ſeparately diſpoſed: afterwards in what manner intellect every where running round in a diſcurſive proceſſion, is able to find theſe: alſo how it abides: and again, how it abides or perſeveres in the ſame; and what form or figure it is endued with. Unleſs, perhaps, intelligibles are ſituated like certain images formed from gold, or from ſome other matter by a ſtatuary or painter. But if this be the caſe, intellect in its perceptions will be the ſame as ſenſe. Beſides in what reſpect among theſe, is *this* intelligible, juſtice, but *that*, ſomething elſe. Laſtly, this is the moſt powerful objection of all: viz. if any one ſhould entirely admit, that theſe are extrinſical, and that intellect ſpeculates them as having an external poſition, it neceſſarily follows that intellect does not poſſeſs the truth of theſe, but is deceived in the contemplation of each. For the object of its contemplation will be truly external: it will therefore behold them deprived of their intimate poſſeſſion, and containing only their images in a knowledge of this kind. Since, therefore, it does not poſſeſs truth itſelf, but only contains certain images of truth, it will poſſeſs what is falſe, and have nothing of truth. If then it knows that it contains only what is falſe, it muſt undoubtedly confeſs itſelf to be deſtitute of truth: but if it is ignorant of this, and thinks that it participates of truth, when at the ſame time it is deſtitute of its poſſeſſion, it is deceived by a twofold fallacy, and is very far diſtar fro

from truth. For it is on this account, as I think, that truth is not to be found in ſenſible objects but opinion alone: becauſe opinion is converſant in receiving, from whence its name is derived. On this account it receives ſomething different from itſelf, ſince that alſo is different from which it poſſeſſes what it receives. If then truth is not reſident in intellect, ſuch an intellect cannot be truth, nor a true intellect, nor intellect at all: nor indeed will truth be reſident in any other place.

Hence it is not proper either to inveſtigate intelligibles ſeparate from intellect, or to confeſs that the figures of things only are contained in intellect, or to deprive it of truth, while we admit it is ignorant of intelligibles, and that the objects of its intellection have no exiſtence in the order of things. But it is neceſſary to attribute all things to true intellect, if it is requiſite to induce knowledge and truth; to preſerve beings themſelves; and that knowledge by which the eſſence of every thing is known; and no longer to acquieſce in the reſemblances and images of things, as when we alone underſtand the particular mode of exiſtence, and not the real eſſence of a thing; in this caſe neither poſſeſſing the object itſelf, nor dwelling with it, nor conſpiring into one with its nature. For intellect indeed truly knows, nor is any thing concealed from its eſſential intelligence, nor is it liable to oblivion, nor does it wander by inveſtigation, but it contains truth, and the ſeat of things in its eſſence, and is ever vital and intelligent. All which properties, indeed, ought to reſide in the moſt bleſſed nature, or where can any thing honourable and venerable be found?

Hence it neither requires demonſtration, nor the faith of perſuaſion, that intellect is thus eſſentially intelligent: for it is entirely manifeſt to itſelf, and there is nothing more worthy of faith than its own eſſence. So that it contains real truth, not conſonant to any other but to itſelf, nor does it pronounce and exiſt any thing beſides itſelf: and that which it is, it pronounces. Who then can confute it? And from whence can he bring his confutation? For the argument which is adduced muſt revolve into the ſame with the former. And although it is employed as different, it is nevertheleſs referred to the thing propoſed by the firſt argumentator, and is with it entirely one and the ſame. For nothing can be found more true than truth.

This one nature intellect therefore is all beings: it is truth: it is a great deity: or rather it is not any particular god: but is deſervedly every deity. And ſuch is the nature of this ſecond divinity, appearing to beholders, before they ſurvey that ſuperior God, who is ſeated in ſublimer majeſty on the illuſtrious throne of intellect, depending from his ineffable nature. For it is highly proper that he ſhould not ſubſiſt in an inanimate ſeat, nor again immediately occur to us moving in the circular chariot of ſoul, but that an ineſtimable beauty ſhould wonderfully ſhine before his appearance, as before the preſence of a mighty king. For to ſuch as advance to his intuition it is ordained

that leſſer things ſhould firſt occur and afterwards that ſuch as are greater ſhould gradually preſent themſelves to the view; and that ſuch as ſurround the king ſhould be more royal, and the reſt in a degree proportionate to their diſtance from his ineffable glory. But after all theſe, the mighty king himſelf, ſuddenly ſhines forth to the view: while the reſt venerate the king, in a ſuppliant manner; ſuch I mean as do not depart from thence till they have proceeded to the laſt ſpectacle of all, like thoſe who are ſatisfied with the ſplendor of the attendants on majeſty. Another king, therefore, reigns in this intelligible world, and his attendants are different from his nature. But this ſupernal king does not rule over foreign ſubjects, but he poſſeſſes a juſt and natural government, and a true kingdom: ſince he is himſelf the king of truth, and is naturally the lord of his offspring the univerſe, and of the divine company of immortal gods. Hence he is the king of a king, and of kings, and is called by a juſter name, the father of the gods. Whom indeed Jupiter in this reſpect imitates, ſince he does not acquieſce in the contemplation of his Father, but proceeds beyond this to his grand-ſire, as to an energy in the very ſubſiſtence (ὑπάρξεως) of his eſſence.

But let us now aſcend to the one itſelf, which is indeed truly one, not like other things which at the ſame time that they are many, are alſo one through the participation of unity. For we muſt now receive one itſelf, which is not one by participation, like ſuch things as are not more truly one than many. We muſt likewiſe aſſert that the intelligible world is more one than other things, and that nothing is nearer than this to unity itſelf: at the ſame time that it is not purely one.

But for the preſent we deſire to contemplate, if poſſible, the nature of the pure and true one, which is not one from another, but from itſelf alone. It is therefore here requiſite, to transfer ourſelves on all ſides to one itſelf, without adding any thing to its nature, and to acquieſce entirely in its contemplation; being careful leſt we ſhould wander from him in the leaſt, and fall from one into two. But if we are leſs cautious we ſhall contemplate two, nor in the two poſſeſs the one itſelf; for they are both poſterior to unity. And one will not ſuffer itſelf to be numerated with another, nor indeed to be numbered at all: for it is a meaſure free from all menſuration. Nor is it equal to any others, ſo as to agree with them in any particular, or it would inherit ſomething in common with its connumerated natures; and thus this common ſomething, would be ſuperior to one though this is utterly impoſſible. Hence neither eſſential number, nor number poſterior to this, which properly pertains to quantity can be predicated of one: not eſſential number whoſe eſſence always conſiſts in intellection; nor that which regards quantity, ſince it embraces unity, together with other things different from one. For the nature pertaining to number which is inherent in quantity, imitating the nature eſſential to prior numbers, and looking back upon true unity, procures its own eſſence,

eſſence, neither diſperſing nor dividing unity, but while it becomes the duad, the one remains prior to the duad, and is different from both the unities comprehended by the duad, and from each apart. For why ſhould the duad be unity itſelf? Or one unity of the duad rather than another, be one itſelf? If then neither both together, nor each apart is unity itſelf, certainly unity which is the origin of all number, is different from all theſe; and while it truly abides, ſeems after a manner not to abide. But how are thoſe unities different from the one? And how is the duad in a certain reſpect one? And again, is it the ſame one, which is preſerved in the comprehenſion of each unity? Perhaps it muſt be ſaid that both unities, participate of the firſt unity, but are different from that which they participate: and that the duad ſo far as it is a certain one participates of one itſelf, yet not every where after the ſame manner: for an army, and a houſe are not ſimilarly one; ſince theſe when compared with continued quantity, are not one, either with reſpect to eſſence, or quantity. Are then the unities in the pentad, differently related to one, from thoſe in the decad? But is the one contained in the pentad, the ſame with the one in the decad? Perhaps alſo if the whole of a ſmall ſhip, is compared with the whole of a large one, a city to a city, and an army to an army, there will be in theſe the ſame one. But if not in the firſt inſtance, neither in theſe. However, if any farther doubts remain, we muſt leave them to a ſubſequent diſcuſſion.

But let us return to unity itſelf, aſſerting that it always remains the ſame, though all things flow from it as their inexhauſtible fountain. In numbers, indeed, while unity abides in the ſimplicity of its eſſence, number producing another is generated according to this abiding one. But the one which is above beings, much more abides in ineffable ſtation. But while it abides, another does not produce beings, according to the nature of one: for it is ſufficient of itſelf to the generation of beings. But as in numbers the form of the firſt monad is preſerved in all numbers, in the firſt and ſecond degree while each of the following numbers do not equally participate of unity; ſo in the order of things, every nature ſubordinate to the firſt, contains ſomething of the firſt, as it were his veſtige or form in its eſſence. And in numbers, indeed, the participation of unity produces their quantity. But here the veſtige of one gives eſſence to all the ſeries of divine numbers, ſo that being itſelf, is as were the footſtep of ineffable unity. Hence he who aſſerts that τὸ ὄναι, which is a denomination declarative of eſſence, is derived from τὸ ἑν, that is, *one*, will not perhaps deviate from the truth. But that which is called τὸ ὄν, that is, *being*, firſt of all ſhining forth from the depths of unity, and as it were not far proceeding from thence, is unwilling to advance beyond its original, but abides converted to its moſt interior retreats, where it becomes eſſence, and the eſſence of all things, and that which pronounces theſe; containing itſelf as it were in its labouring with ſound; and declaring by its ſpeech that it flows from one: and indeed τὸ ὄν thus pronounced, ſignifies its origin as much as poſſible. So that what becomes ὄντα, that is *eſſence*, and [illegible] or *to be*, imitate

imitate to the utmoſt their author, from whoſe unwearied power they perpetually flow. But intellect perceiving this, and being moved by the ſpectacle, and imitating what it knows, ſuddenly produces with an energetic voice the words ὄν, εἶναι, νοῦς, ἴσον. For theſe ſounds endeavour to expreſs the ſubſtance of that which is generated, (the pronouncing nature labouring with the expreſſion;) and imitate as much as poſſible the origin of being itſelf.

But this muſt be left to every one's particular determination. But ſince generated eſſence is form, (and that which is produced from thence can have no other appellation,) it is not a particular form, but univerſal, ſo that nothing elſe than this general form remains to ſpecies; and therefore it is neceſſary that one itſelf ſhould be deſtitute of form. But ſince it is foreign from ſpecies neither can it be eſſence: ſince it is requiſite that eſſence ſhould be ſomething determinate. But it is not lawful to conſider unity itſelf as any thing particular and bounded, otherwiſe it would not be the principle, but that alone which you denominate ſomething ſingular. If then all things are contained in that nature which is generated from the firſt, we muſt truly ſay that the author of all things, is not any one of theſe, and that he can alone be called that which is above all. But the natures produced from thence are beings, and being itſelf; and hence the one itſelf is ſuperior to being. And that which is above being, does not ſay I am this, nor does it determine any thing concerning its nature, nor does it tell its name, but it alone pronounces, *I am not this*, i. e. *I am nothing comprehenſible and definite*. But it is impoſſible by this means, to comprehend its nature: ſince it is ridiculous to attempt to comprehend immenſity itſelf. So that whoever attempts it, removes himſelf far from the leaſt veſtige of this nature. For as he who deſires to know intelligible eſſence, then only perceives what is above ſenſe, when he poſſeſſes no image of a ſenſible object: ſo he who deſires to contemplate a nature ſuperior to intelligible eſſence, will enjoy the ineffable viſion, if he neglects every thing intelligible, while merged in the moſt profound and delightful of all contemplations; learning from hence, that he is, but neglecting the enquiry into what he is, as impoſſible to inveſtigate. For this which is called *ſuch*, ſignifies when applied to him, not ſuch: ſince the appellation of ſuch cannot belong to a nature, to whom the predication *what*, is not applied. But we labouring as it were with our difficulty of conception, are ignorant what denomination is proper to his nature, and deſiring as much as poſſible to ſignify ſomething to ourſelves give a name to that which is ineffable. But perhaps this name which is called one derives its appellation from a certain negation of many. On which account the Pythagoreans denominated him Apollo, according to a more ſecret ſignification, which alſo implies a negation of many. But if any one eſtabliſhes this name one, and affirms ſomething according to its ſignification, both the name and the thing named will be more obſcure than if its appellation had been entirely neglected. For perhaps the name was expreſſed that the inveſtigator beginning from ſomething ſignifying the greateſt ſimplicity

city of all might arrive at, that perfection of contemplation, as even to deny him the appellation of one; convinced that the beſt name indeed had been aſſigned him, but that it was unworthy to expreſs the ſuperlative excellence of his nature. For this cannot be reached by the hearing, nor be underſtood by any hearer: but if it is manifeſt to any one, it muſt be to the profound beholder. But if he who perceives, endeavours to behold form, he will loſe the intuition of this ineffable nature.

Again, the energy of viſion is twofold, as it happens with reſpect to the eye. For one thing, indeed, is a ſpectacle to the eye, that is, the form of the ſenſible object, but another, that by which it perceives the form, and which though itſelf ſenſible, is different from the ſenſible form. Hence it is the cauſe by which form is beheld, is inherent in form, and is perceived connected with its nature: though on this account it is not clearly perceived, ſince the eye more intently directs itſelf to the illuminated object than to the illuminating cauſe. But when there is nothing beſides itſelf, it is beheld with a ſudden and univerſal viſion, though it ſhould then be perceived adhering to ſome other object: for if it was entirely ſeparate and alone, it could not be ſubject to ſenſible inſpection; ſince the light of the ſun flouriſhing in the ſun itſelf, would perhaps eſcape our ſenſe, unleſs its more ſolid orb was the ſubject of its ſplendor. But if it ſhould be ſaid that the whole ſun is light, it is perhaps only aſſerted for the ſake of explanation: for light is in no form of other viſible objects, and is perhaps nothing elſe than that which is viſible *, while other things are viſible, but not light alone; ſince their natures are various

* In the note to page 14, of this volume, we have ſhewn from Proclus that light is place, and is an immaterial body. Indeed that light is ſomething ſuperior to ſenſible nature may, I think, be evinced by the following conſideration. As the ſupreme principle of the univerſe, (who can be compared to nothing ſo properly as light,) is the light of the intelligible world, and is at the ſame time more exalted than every thing which it contains; ſo in this ſenſible, which is the image of the intelligible world, it is neceſſary that corporeal light, ſhould be more excellent than any material nature. But as Proclus prefaces this ſpeculation on light, in the above mentioned paſſage, in a moſt admirable and uncommon manner; let us attend him in the abſtruſe inveſtigation. In the firſt place ſpeaking of that light which emanates from the ſupreme ſoul of the world, and which, according to the Zoroaſtrian oracle,

Ἄρθω ἰμφύεται φάος, αἰθὴρ, αἰθέρα, πῦρ,

abundantly animates, light, fire, ether, and the world; he ſays that this light is one fire, above the three others, viz. the empyrean, etherial, and material fire; and that it firſt unfolds the eternal quiet of the gods, and illuſtrates eſſential ſpectacles to ſuch as are worthy of their inſpection. For by the aſſiſtance of this light, things deficient of figure and impreſſion, are impreſſed according to reaſon and intelligence. And perhaps (ſays Simplicius) he calls light place, becauſe it is a certain deſcription and type of the univerſe, and gives diſtance to things, which without the preſence of light would not appear to be diſtant. But here Proclus very philoſophically doubts againſt his own poſition. In the firſt place, how body can be received and penetrated by body. In the ſecond place, whether place, i. e. light, is inanimate, or participates of ſoul. But (ſays he) it cannot be inanimate, becauſe it is better than the animated natures which it contains, and becauſe rational beings are fitted to be animated. Hence this body, will be animated the firſt of all others. But if it is animated, how can it be immoveable? And he diſſolves the firſt doubt, becauſe there are ſome immaterial bodies void of affection and paſſion. For (ſays he) a body void of matter neither reſiſts nor is reſiſted; ſince that which is impelled and repelled, is eminently paſſive in ſuch operations. But neither can ſuch a body be divided, ſince it is void of paſſivity.

various and compoſite. In like manner the eye of intellect, ſees from another light things illuminated by that firſt nature, and in them it truly ſees their illuminating ſource. But when it too earnſtly converts itſelf to the nature of the illuminated objects, it perceives leſs their ſplendid original. And if at any time it ſhould diſmiſs the viſible objects, and attentively ſurvey the light by which it perceives, it will then view light itſelf, and the principle of light. But becauſe it is requiſito that intellect ſhould behold a light of this kind, not as any thing external; let us return again to the example of the corporeal eye, which on a time does not perceive external and foreign light, but previous to this beholds a light more peculiarly its own, and by far more lucid, ſhining in a certain inviolate and pure ſeat; either when it perceives before itſelf a ray darting from its tranſparent receptacle, through the darkneſs of night; or when not diſpoſed to behold other objects, it confines itſelf under the covering of the eye-lids, and in the mean time produces from itſelf a purer light within; or laſtly, when ſome one by preſſing the corners of his eye-lids, views the inward light of the eye. For then, indeed, by not ſeeing he ſees, and then ſees in the moſt exalted degree; for he views light itſelf: while other things which were the objects of this viſion before, were indeed lucid, without being

vity. Hence neither can the abſurdity be adduced, that the univerſe is received by a minimum, or penetrates a minimum. For if it cannot be divided, neither can it be equally divided with the ſmalleſt; and if this is impoſſible, neither can it be permeated by the univerſe.

But he removes the ſecond objection, by aſſerting, that this body, i. e. light, is animated by that ſoul, which is the fountain of others; and that it poſſeſſes a divine life, and an eſſence ſelf-motive, but not in energy. For if we aſſert that ſoul is ſelf-motive, in a two-fold manner, in one reſpect according to eſſence, but in the other according to energy; we muſt likewiſe affirm that place, or light is partly moveable, and partly immoveable. For what ſhould hinder our aſſerting, that place participates of ſuch a life, and that it lives according to an immutable eſſence, and not according to a ſelf-motive energy? But if you are deſirous (ſays he) of conſidering the motion of place, according to energy, you will plainly perceive, that it is, as it were, the mover of the bodies which are moved, and which turn their parts according to a certain diſtance: ſince theſe cannot be every where, and are incapable of being preſent to all the parts of place, according to each of their parts. And this is that intervention and affinity, which it poſſeſſes with ſoul moving without dimenſion. For, life ſo far as life, appears to produce motion: and ſince place is that which firſt participates of life, motion to place, will confer a true motion on every part; and will produce a deſire in every part of the moved body of arriving at its whole, and ſince it is not able to accompliſh this, on account of the natural property of interval, of ſubſiſting diviſibly in the univerſe. For whatever deſires any nature, which it is not able to reach, through its peculiar defect, is then more enflamed in the purſuit of that, which it cannot poſſeſs through the imbecility of its nature. For it is requiſite (ſays he) that between an incorporeal and immutable life, ſuch as that of ſoul, the fountain of the reſt; and one corporeal and mutable, that one immutable and corporeal ſhould intervene as a proper medium. And thus much from Proclus concerning place or light, whoſe reaſonings appear to me equally elegant and philoſophical, ſubtile and profound.

But the opinion of the Phœnicians reſpecting light, as preſerved by the emperor Julian in his elegant oration to the ſun, is no leſs admirable than that of Proclus; and at the ſame time aſſerts its immaterial nature. "According to the Phœnicians (ſays Julian) who are ſkilled in divine ſcience and wiſdom, the univerſally-diffuſed ſplendor of light, is the ſincere energy of an intellect perfectly pure: i. e. of the ſolar intellect, which as Julian expreſſes it, ſcattering its light from the middle region of the heavens, fills all the celeſtial orbs with powerful vigour, and illuminates the univerſe with divine and incorruptible light." With great reaſon, therefore, does Plotinus aſſert, that light is nothing elſe than that which is viſible: for this muſt be the neceſſary property of a nature, poſſeſſing a triple dimenſion without ſenſible matter.

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light. In like manner intellect concealing and separating itself from all other concerns, and confining itself in its most inward retreats, and perceiving nothing, will immediately behold light, not subsisting in another, but by itself alone, perfectly pure, and suddenly shining from itself, with a splendor ineffably sacred and divine.

But in this case it will be doubtful from whence such a light shines; whether from something external, or rather from an internal source: and again when it departs we may happen to say, this was something intimate, and again not intimate. But, indeed, it is not lawful to enquire from whence it originated, for it neither approached hither, nor again departs from hence to some other place, but it either appears to us, or does not appear. So that we ought not to pursue it, as if with a view of discovering its latent original, but to abide in quiet, till it suddenly shines upon us; preparing ourselves for this blessed spectacle, like the eye waiting patiently for the rising of the sun, until appearing above the horizon, and emerging, as the poets say, from the bosom of the ocean, he presents himself to the sight. But from whence does this light which the sun imitates supernally shine? And what is the nature which it transcends, when it perspicuously presents itself to our view? Indeed it illuminates intellect, intently surveying its lustre. So that intellect stops itself in beholding, as having now arrived at the desired end of its vision, looking upon nothing else than the beautiful itself; converting itself wholly to its contemplation, and dedicating itself entirely to its enjoyment. Hence abiding in this delightful state, and as it were replete with divine vigour, it beholds itself in the first place now become more beautiful and refulgent, as being nearer to that which is highest and best. But he will not approach in the manner some may expect; since he will come as if not coming. For he will be present before and above all things, even before intellect approaches to the vision. But it is intellect which properly approaches and departs; which departs indeed when it is ignorant where it should abide, and where this divine principle abides: because indeed it truly abides in no being. And if intellect could be no where (I do not mean with respect to place only since this also is free from the affections of place) but entirely no where, it would doubtless always behold his divinely solitary nature, although it would become united with him, not as perceiving, but as abiding in his nature; and this not as if intellect and this highest principle were two. But now because it is intellect, it thus sees when it sees, by that which it contains different from intellect, and which is the very summit and flower of its essence. And, indeed, it is wonderful in what manner this first god is present without approaching, and how while he is no where, he is at the same time every where. This indeed is wonderful from its very condition, but to him who profoundly knows the thing itself, it would rather be admirable if the contrary should be affirmed. Or rather, indeed, it cannot exist otherwise than as the object of vehement admiration. For such is the nature of the supreme.

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Whatſoever is produced by another, is either contained in its author, or in ſome other nature, if any thing beſides its author remains: for ſince it is produced by another, and requires ſomething different from itſelf to its generation, it every where requires another nature for its ſupport, and conſequently repoſes in another, from the neceſſary indigence of its being. And thus it is appointed by nature, that ſuch things as are laſt, ſhould be eſtabliſhed in ſuch as are immediately above them: and again things prior to theſe, in ſuch as are ſimiliarly prior, and always one thing in another up to the firſt principle of all. But the higheſt principle, becauſe he has nothing prior to his nature, cannot ſubſiſt in any other. And hence becauſe he is not in another, but others ſubſiſt in their ſuperiors, on this account he comprehends all things in the immenſity of his nature. But while he embraces them, he is not diſſipated into their eſſence, ſince he contains them without being contained; yet in this caſe, there is nothing exiſts, with which he is not preſent: for unleſs he was preſent he could not contain: and again, if he did not contain, he could not be preſent. So that he is preſent, and yet not preſent: for, becauſe he is not comprehended by any thing, he is by no means preſent; but becauſe he is free from all circumſcription, he is not hindered from being preſent every where: for if he were reſtrained, he would certainly be defined by ſome particular being, and ſubſequent natures, would be left deſtitute of his preſence; and thus far the firſt deity would reign, nor would any thing farther ſubſiſt in his nature, nor would he abide in himſelf, but become ſubſervient to others. Whatever, therefore, ſubſiſts in any thing different from itſelf, is properly there, where it ſubſiſts. But ſuch as are not any where, are on this account preſent every where. For whatever is excluded from ſome particular place, is comprehended in ſome other, ſo that it is falſe to affirm of ſuch a nature that it is not contained ſome where. If then it is true that the ſupreme principle is not in any particular place, and falſe, that he is ſomewhere (leſt he ſhould be contained in another), he is on this account abſent from no being or place. But if he is no where abſent, certainly becauſe he is not ſomewhere, he will be every where preſent in himſelf: for one part of him will not be here, and another there, nor yet the whole of him in one particular place only, ſo that he will be every where totally preſent; ſince no one being contains him, nor yet in another ſenſe does not contain him, ſince he is ſo contained, that he may rather be ſaid to contain. But in order to illuſtrate the preſent ſubject, let us conſider our viſible univerſe, for if there were no other world ſuperior to this, it would neither be contained in the world, nor yet in place. For what place could there be prior to the exiſtence of the world? But the parts of the world are reduced to the univerſe, and are placed in its comprehenſive bound. And ſoul is not in the world, but rather the world is in ſoul: for neither is body the place of ſoul, but ſoul is in intellect, and body in ſoul. Laſtly, intellect abides in another, which is no longer dependent on any thing ſuperior, and in which it is compelled to repoſe: ſo that the higheſt principle is properly contained in

no other, and is on this account ſaid to be no where. Where then do other things ſubſiſt? Doubtleſs in that which is firſt. Hence he is neither abſent from others, nor is contained in them, while at the ſame time he contains all things in the immenſity of his nature. Hence too, on this account he is conſidered as the good of the univerſe; becauſe all things ſubſiſt by him, and are referred to him as their divine original. But they are ſo referred to him, that ſome are more excellent than others, becauſe ſome are more proximate than others to his ineffable nature.

But let me intreat you, not to endeavour to perceive him through the medium of other natures, for otherwiſe you will not diſcover the higheſt principle himſelf, but only a veſtige of his divinity. But conſider with yourſelf what that is, which can alone be perceived abiding in itſelf, perfectly pure and unmixt, and which is of ſuch a kind that all things participate yet none contain its nature; ſo that nothing elſe can be ſuch as he is, and yet it is neceſſary that ſuch a nature ſhould ſubſiſt. What being then can at once apprehend the whole of his power? For if any one apprehends the whole, in what reſpect does he differ from his nature? Muſt he be received then according to a a part? But you who are intent on beholding him, ſhould ſurvey him with a univerſal viſion, and at the ſame time be cautious not to tell yourſelf the whole of your perception, or you will become intellect, intelligent: but he will immediately fly from your intuition, or rather you will retire from him. But when you behold, behold him totally; and when you energize with intellect concerning him, whatever you retain in your memory of his nature, be careful to underſtand it as the good. For he is the cauſe of a wiſe and intellectual life; ſince he is that power itſelf, from which life and intellect is produced; and he is the author of eſſence and being, becauſe he is the one itſelf. And he is perfectly ſimple, and the firſt, becauſe he is the principle of all. For all things flow from him as their original ſource; motion firſt proceeded from him, yet is not contained in his nature; ſtation likewiſe originates from him, becauſe he is ſuperior to want: for he is neither moved, nor at reſt, ſince he contains nothing in which he can either repoſe or revolve. For about what, or to what, or in what can he either be moved, or repoſe, ſince he is the firſt? But neither can he be defined, for what can bound his nature? Nor yet again, is he infinite, like an immenſe bulk. And where can he be ſaid to advance, as if he were indigent, who is in want of nothing? But his power contains infinity itſelf. Nor is he ever deficient, ſince beings who are ſuperior to defect derive this perfection from the inexauſtible plenitude of his nature.

But this infinite is ſo called, becauſe it is not more than one, and becauſe it does not contain any thing, by which any part as it were of its nature can be bounded. Indeed, from its being one, it is neither meaſured, nor proceeds into number; and therefore is neither terminated by another, nor by itſelf: for if this were the caſe it would become two. Nor again has it any figure, becauſe it has no parts, nor form. Do not, therefore,

ſeek after its ineffable viſion with mortal eyes; nor attempts to perceive by any corporeal means, that which reaſon proves to be ſo remote from the comprehenſion of ſenſe. Do not, I ſay, think it can be known in the manner they imagine, who conſider all things as ſenſibles; and thus entirely ſubvert that which *Is*, in the moſt exalted degree. For thoſe things, which ſome conſider as having the moſt real being, have the moſt unreal. And that which is great in quantity is leaſt in being: but that which is firſt is the principle of being, and ſomething more excellent that eſſence; ſo that our opinion muſt become the very oppoſite to this, or we ſhall be deſtitute of the union with this moſt exalted deity. Juſt as thoſe who in ſolemn feſtivals, through a ſhameful gluttony, fill themſelves with food which it is unlawful for thoſe to touch who intend an entrance to the gods; eſteeming the aliment of the belly more certain than the contemplation of the god whoſe rites are to be celebrated, and on this account they depart deſtitute of the ſacred viſions. For in ſuch holy rites when the god is not beheld, his exiſtence is denied by thoſe who conſider as alone certain that which is taſted and perceived by the fleſh. Juſt as if any one ſhould be loſt in ſleep through the whole of life, and ſhould therefore believe in the viſions of ſleep, as alone certain and real. But if any one happens to rouſe him, as one who does not believe in objects beheld with open eyes, ſhould ſuddenly return again to ſleep, and the deluſions of dreams.

Again, it is requiſite for the purpoſe of perceiving, to aſſume that organ by which each particular ought to be beheld. The eyes for ſome, the ears for others, and ſo of the reſt. And it is neceſſary to believe, that other things are the peculiar objects of intellect, and that to underſtand is not the ſame as to hear and to ſee; for this would be as abſurd as if any one ſhould command the ears to perceive, and ſhould on this account deny the exiſtence of voices, becauſe they are not the objects of ſight. Hence we muſt conſider ſuch as theſe ignorant of that which from the beginning to the preſent day they deſire and affect: for all things deſire that which is firſt from a neceſſity of nature, propheſying, as it were, that they cannot ſubſiſt without the incomprehenſible energies of his nature. Beſides the knowledge of beauty, happens to ſuch ſouls as are rouſed and knowing; and is attended with a ſtupor, and the excitation of love. But good, becauſe preſent from the beginning to our innate appetite, abides with us even when aſleep, and never ſeizes its ſpectators with aſtoniſhment, becauſe it is always preſent, and requires no peculiar reminiſcence to convince us of its preſence. But the love of beauty, when it firſt offers itſelf to the view, produces moleſtation, becauſe it is requiſite to ſeek after beauty by knowledge: but a love of this kind ſince it is the ſecond, and belonging to thoſe who are intelligent, plainly indicates that beauty is itſelf the ſecond; and the deſire of good, ſince it is more ancient, and does not require the aſſiſtance of the ſenſes, teſtifies that good itſelf is more ancient than beauty, and is ſuperior to its nature. Add to this, that all beings think they ſhall be ſufficient to themſelves, if they obtain good; as if ſecretly convinced they ſhall then at length arrive at the deſired end: but all do not think the poſ-

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ſeſſion of beauty, will be ſufficient to the completion of their wiſhes. Beſides ſome judge that what is beautiful, is beautiful to itſelf, but not to them, as is the caſe with this our apparent beauty. For they judge that its poſſeſſor is beautiful; and conſider it ſufficient to appear beautiful though deprived of its real poſſeſſion: but they do not deſire to poſſeſs good in opinion, but in reality. For all things eſpecially ſtrive to procure for themſelves that which is firſt; and contend with beauty, as it were with a deſire of victory, as if conſcious it was generated, as well as themſelves. Juſt as if ſome one poſterior to a king, ſhould ſtudy to equal in dignity another who immediately follows the king, and is the next to him in royal pre-eminence; becauſe he depends on one and the ſame principle as his rival, being ignorant, indeed, that he himſelf depends on the king, but that the other precedes him in priority and perfection of nature. But the cauſe of the error is their both participating of the ſame; and one itſelf being prior to both. Beſides it appears that good itſelf is by no means indigent of the beautiful, but the beautiful cannot ſubſiſt without the good. Hence good is gentle, mild, placid, delicate, and ſuch as every one wiſhes it to occur. But beauty either renders the ſoul ſtupid, or mingles the excited pleaſure with grief. Laſtly, it often cauſes incautious ſouls to deviate from good, as the beloved object often ſeparates the lover from his parent. For beauty is of a junior nature, but good is more ancient, not indeed in time, but in truth, becauſe it poſſeſſes a prior power: for it poſſeſſes univerſal power. But that which is ſubordinate to the good, does not receive all power, but ſuch only as it is requiſite for a nature poſterior to the firſt, and originating from him to receive. So that he is the lord of this poſterior power, and is in no reſpect indigent of his offspring, the beautiful, ſince he exiſted ſuch as he is prior to its generation; and would have ſuffered no loſs in the perfection of his nature, if this had not been generated. And if ſome other could be produced from his nature, he would not envy it the poſſeſſion of being. But now nothing farther can be generated: for nothing remains, which has not been already produced, ſince the univerſe is complete. But this higheſt principle is not all things, for in this caſe he would be indigent of all: but ſurpaſſing all things, he is able to produce and permit all things to themſelves; while, at the ſame time, he is eminently exalted above all by the incomprehenſible dignity of his nature.

But ſince the ſupreme principle is good itſelf and not merely good, it is requiſite he ſhould contain nothing in himſelf, ſince he does not even contain good. For if he poſſeſſed any thing, he would either poſſeſs good, or that which is not good: but in that which is properly the firſt good, non-good, can have no ſubſiſtence; nor yet can good itſelf contain good. If then it neither poſſeſſes non-good, nor good, it contains nothing; and if it contains nothing it is alone, dwelling in ſolitary unity, retired from the univerſality of things. If then other natures are either good (yet not good itſelf); or, perhaps, ſuch as are non-good, but he contains neither of theſe, certainly by poſſeſſing nothing he is good itſelf. If then any one adds to his nature either eſſence, or intel-

ſect, or beauty; by ſuch an addition he deprives him of being the good itſelf. As on the other hand by taking away all things, and affirming nothing concerning his nature, nor deceiving in any reſpect, as if ſomething was preſent with his nature, we ſhall permit him to be what he is; teſtifying concerning him none of theſe properties of being, which are not preſent with a cauſe ſo ſublimely remote from eſſence itſelf. In which reſpect thoſe for the moſt part err, who, when they are ignorant how any one ought to be praiſed, detract from the glory of the ſubject of their praiſe, while they add ſuch things to his nature, as are beneath its dignity; not knowing how to accommodate true praiſe to its proper object. On this account we ought alſo, in the firſt place, to beware, leſt we add any thing poſterior, and unworthy the divine object of our praiſe; and to obſerve that he who ſurpaſſes all theſe, is, indeed, their proper cauſe without poſſeſſing any of their properties and affections. For the nature of good does not conſiſt in being either all things, or ſome one particular of all. Since, if he was ſome one particular of all, he would be contained under one and the ſame nature together with all. But if he is under one and the ſame nature together with others, he will vary from others, only by a certain proper difference and addition. Hence, in this caſe, he will be two and not one; one part of which two, I mean that which is common to it with the reſt, will be non-good: but the other will be good. He will, therefore, be mixed from good and non-good, and conſequently will not be the pure and firſt good. But that will be the firſt good, of which this participating becomes good beyond the common condition. This then will be good by a certain participation: but that of which this participates, will be none of the univerſality of things; and ſuch, therefore, muſt be the condition of the good itſelf. But if this too contains good as a part, for it is difference by which this is a compoſite good; it is neceſſary that this ſhould depend on another, which is entirely ſimple, and alone good. And hence this which is various depends upon that which is good alone. So that it appears, that what is firſt, and the good itſelf, is above all beings, is good alone, and contains nothing in its nature, but is perfectly free from all mixture; and that it is above all, and is the divinely ſolitary cauſe of all. For neither does beauty nor being originate from evil, nor yet from ſuch things as are indifferent: for the efficient is better than the effect; ſince it is more perfect and divine." And this much for the firſt book of Plotinus, which we propoſed to inſert; the other on intelligible beauty is as follows:

"Since we muſt confeſs that the ſoul which contemplates the intelligible world, and beholds the beauty of true intellect, may alſo perceive the father of this divine world, who is ſuperior to intellect: let us now endeavour to the utmoſt of our ability to behold, and to expreſs to ourſelves (as much as ſuch things can be expreſſed) how we may in the beſt manner ſurvey the beauty of intellect, and the world which it contains. Suppoſe then, two ſtony maſſes placed near each other, one of which is incompoſite, and deſtitute of artificial form: but the other is faſhioned by art into ſome divine, or human ſtatue. And if divine, let it be the ſtatue of ſome Grace or a Muſe: but if human, not that of any particular man, but rather of ſome one which

art

art has collected together from all beautiful forms. The ſtone then which is diſpoſed by art into the beauty of form, will immediately appear beautiful, but not becauſe it is a ſtone; or the other maſs would be ſimilarly beautiful; it is therefore beautiful becauſe it poſſeſſes the form which art applies. Matter, therefore, had not this form, but it exiſted in the thinking artiſt before it came into the ſtone. But it was in the artificer, not on account of his poſſeſſing eyes and hands, but becauſe he was endued with art. This beauty, therefore, exiſted in art in a much more excellent manner. For the form itſelf which abides in art does not proceed into the ſtone, but this abides in indiviſible union, while an inferior form proceeds from this, which neither remains in itſelf pure, nor is ſuch as the artiſt wiſhes, but ſuch as the ſubject matter is capable of receiving. But if art operates according to what it is, and to what it poſſeſſes, but it faſhions beautiful forms, according to the reaſon by which it acts: hence reaſon is a much greater and truer beauty, ſince it contains the beauty of art; and is greater and more excellent than every thing which proceeds into external form. For ſo far as form proceeding into matter is extended, ſo far it becomes more debile than that which abides in one. Since whatever ſuffers diſtance in itſelf, departs from itſelf, and the integrity of its nature; whether it is ſtrength diffuſed into ſome participant; or heat, or power, or beauty extended to ſome ſubject, and divided about the fluctuating receptacle of matter. Again, every efficient according to itſelf, ought to be more excellent than its effect: for that which is unharmonious does not form a muſician, but this is the work of harmony; and that muſic which is above ſenſe, produces the harmony in ſenſible ſound. But if any one deſpiſes the arts, becauſe they operate imitating nature, in the firſt place, it muſt be confeſſed, that natures alſo imitate other things: and in the next place, that arts do not ſimply imitate that which is perceived by the eyes, but recur to thoſe reaſons from which the energy of nature conſiſts. Beſides this, they produce many things from themſelves, and add ſomething where any thing is wanting to the perfection of the whole; becauſe they contain beauty in themſelves. Laſtly, Phidias himſelf faſhioned his Jupiter, not by imitating any ſpectacle proper to the ſenſes; but conceiving the god ſuch as he would appear, if he ſhould be willing to exhibit himſelf to our eyes.

But for the preſent let us neglect the arts, and conſider thoſe beautiful natural effects, which art is ſaid to imitate, i. e. all rational and irrational animals; but eſpecially whatever amongſt theſe are more exactly finiſhed: I mean where the Demiurgus ruling over matter, inveſts it with the form he deſires it ſhould participate. What then is beauty in theſe? For it is not blood and menſtrua, but colour and figure different from theſe; or it is nothing; or ſomething deſtitute of figure; or it is that which, as it were, contains ſomething ſimple like matter. From whence aroſe the beauty of Helen, for which ſo great a conteſt enſued? From whence ſhines the beauty of other forms ſimilar to Venus? And from whence did the form of Venus herſelf ariſe? Or that of any man entirely beautiful, or of ſome god, whether they are among the number of things ſubject to our ſight, or among thoſe which are not ſubject, and yet have in themſelves a conſpicuous

ſpicuous beauty. Is not this every where form, deſcending into that which is produced by the artificer, in the ſame manner as it was ſaid that the beauty of artificial figures, proceeded from the arts. What then? Are works beautiful indeed, and reaſon exiſting in matter? But is reaſon ſeparate from matter, which exiſts in the ſoul of the agent, and which is firſt in dignity and rank, not beautiful, but is reduced into one with its ſubject matter? But if bulk is beautiful, ſo far as bulk, it follows that active reaſon, becauſe it is not bulk, is not beautiful: though if form, whether contained in a ſmall or in a large maſs, moves and affects in a ſimilar manner the mind of the beholder, certainly beauty is not to be attributed to the magnitude of bulk. Hence, ſo long as form is external to the ſoul, we do not perceive, and are not moved by its power: but when it is well conceived in the ſoul then it affects us with delight. Again, the form of things alone, flows through the eyes, otherwiſe the moſt ample figures could not penetrate through ſuch narrow receptacles. But magnitude is contracted, not from its being great in bulk, but rather becauſe great in ſpecies or form. Beſides it is neceſſary that the cauſe itſelf of a beautiful effect, ſhould be either deformed, or indifferent, or beautiful. If it is deformed, it cannot produce the contrary to deformity. If it is indifferent, why ſhould it rather produce any thing beautiful, than deformed. But, indeed, it is neceſſary that nature the artificer of things ſo beautiful, ſhould poſſeſs a beauty more primary and exalted. But with regard to us, when we behold nothing inward, and are entirely ignorant of internal beauty, we follow what is external, unconſcious in the mean time that the cauſe of motion is profoundly latent in the depths of the ſoul; juſt like one, who on perceiving his own image, and being ignorant from whence it came, ſhould follow its ſhadowy and unreal progreſſion. But that there is ſomething elſe which allures followers to itſelf, and that beauty does not conſiſt in magnitude is ſufficiently teſtified, by the beauty inherent in diſciplines, offices, and the ſoul: where certainly a more true beauty flouriſhes; which is then manifeſt, when we contemplate the wiſdom in a worthy mind, and are delighted with the contemplation, and in love with its beauty; not then ſurveying the corporeal face, which perhaps is not beautiful, but neglecting the whole form of the body and purſuing inward beauty to its moſt ſacred and profound retreats. But if ſuch a ſoul does not yet incite you to denominate it beautiful, neither on ſurveying yourſelf inwardly, will you be delighted with yourſelf as with ſomething beautiful. Hence while ſo affected, you will vainly inveſtigate true and intimate beauty: for you will ſeek after the purity of beauty, not with ſomething pure, but with that which is baſe; and hence too, a diſcourſe on things of this kind is not to be addreſſed to all men. Becauſe if you behold yourſelf beautiful, you may obtain a reminiſcence of beauty itſelf.

The reaſon therefore of the beauty contained in nature is the exemplar of the beauty appearing in body: but the exemplar of natural beauty, is a more beautiful reaſon contained in ſoul, from which the beauty of nature flows. But this ſhines brighter in a worthy ſoul, already advanced in beauty, than in nature herſelf: ſince it adorns ſuch a

ſoul,

ſoul, and affords a light, derived from one much greater; and which is no other than the firſt beauty. Thus abiding in the ſoul, it leads it to conſider, what that ſuperior reaſon of beauty may be, which is no longer generated nor placed in another, but abides perpetually in itſelf. Hence it is not reaſon, but the author of that reaſon which is firſt: ſince indeed the firſt reaſon is a certain beauty ſubſiſting in ſoul as in matter. But its author is intellect, which is always the ſame, and not ſometimes intellect; becauſe intelligence does not happen extrinſical to this true and original intellect. But what image are we able to receive of ſuch an intellect? For whatever is enquired after externally, is doubtleſs ſought for from ſomething worſe than intellect. An image therefore of intellect muſt be obtained from intellect itſelf: ſo that we muſt not ſpeak of it through the medium of an image; but we muſt receive a certain portion of gold, as a repreſentative of univerſal gold. And unleſs this received gold is pure, we muſt purify it either in reality, or at leaſt in our diſcourſe; demonſtrating that this which is received by us, is not univerſal, but only a particular portion of gold. Thus then let us aſcend higher from our intellect now purified, to intellect itſelf; and let us begin with the gods themſelves, contemplating the intellect which they poſſeſs. For all the gods are venerable and beautiful, and endued with an ineſtimable gracefulneſs. But what is the cauſe of ſuch beauty? It is intellect, energiſing in the moſt exalted manner, which produces their divinely beautiful appearance. For it is not becauſe their bodies are beautiful that they are gods, but from the poſſeſſion of intellect, ſince the participation of body, is not eſſential to divinity. For they are not at one time wiſe, and at another time the contrary; but they are perpetually wiſe, with a tranquil, ſtable, and pure intellect, underſtanding all things, and knowing not human concerns properly, but their own, that is ſuch as are divine, and ſuch as intellect itſelf perceives. But the gods who inhabit this viſible heaven, for they abound in divine leiſure, aſſiduouſly contemplate, as if it were above them, what the primary and intelligible heaven contains. But thoſe who are ſtationed in this higher world, contemplate its inhabitants poſſeſſing the whole of this diviner heaven. For all things there are heaven. There the ſea, animals, plants, and men are heaven. Laſtly every portion of this heaven is celeſtial. But the gods who reſide there, do not diſdain men, nor any other of its inhabitants, becauſe every thing there is divine; and they comprehend the whole of this intelligible region attended with the moſt perfect repoſe.

Hence the life of theſe divinities is eaſy, and truth is their generator and nurſe, their eſſence and nutriment: hence they perceive all things, not ſuch indeed as are ſubject to generation, but ſuch as abide in eſſence: they likewiſe perceive themſelves in others. For all things are there perfectly perſpicuous. Nothing there is dark, nothing oppoſing, but every thing is conſpicuous to all, intrinſically and univerſally. For light every where meets with light. Each thing contains in itſelf all, and all things are again beheld

held in another. So that all things are every where, and all is all. There every thing is all. There an immenſe ſplendour ſhines. There every thing is great, ſince even what is ſmall is there great. There the ſun is all the ſtars; and every ſtar is a ſun, and at the ſame time all the ſtars. But one thing excels in each, while in the mean time all things are beheld in each. There motion is perfectly pure: for the proceeding motion is not confounded by a mover foreign from the motion. Station alſo there is diſturbed by no mutation: for it is not mingled with an unſtable nature. Beſides beauty there is beauty itſelf, becauſe it does not ſubſiſt in beauty. But every thing abides there not as if placed in ſome foreign land; for the being of each is its own ſtable foundation: nor is its eſſence different from its ſeat; for its ſubject is intellect, and itſelf is intellect. Juſt as if any one ſhould conceive this ſenſible heaven, which is manifeſt and lucid to the eyes, germinating into ſtars by its light. In corporeal natures indeed, one part is not every where produced from another, but each part is diſtinct from the reſt. But there each thing is every where produced from the whole; and is at the ſame time particular, and the whole. It appears indeed as a part: but by him who acutely perceives, it will be beheld as a whole: by him I mean, who is endued with a ſight ſimilar to that of the lynx, the rays of whoſe eyes are reported to penetrate the depths of the earth. For it appears to me that this fable, occultly ſignifies the perſpicuouſneſs of ſupernal eyes. Beſides the viſion of theſe bleſſed inhabitants is never wearied, and never ceaſes through a ſatiety of perceiving. For there is no vacuity in any perceiver, which when afterwards filled up, can bring intuition to an end. Nor can pleaſure ever fail through the variety of objects; or through any diſcord between the perceiver and the thing perceived. Beſides every thing there is endued with an untamed and unwearied power. And that which can never be filled, is ſo called, becauſe its plenitude never ſpurns at its repleniſhing object. For by intuition it more aſſiduouſly perceives. And beholding itſelf infinite, and the objects of its perception, it follows its own nature as its guide in unwearied contemplation. Again, no life there is laborious, ſince it is pure life: for why ſhould that labour, which lives in the beſt manner? But the life there is wiſdom, a wiſdom not obtained by arguments like ours, becauſe it is always total, nor is in any part deficient, from which it might require inveſtigation. But it is the firſt wiſdom, not depending on any other; and eſſence itſelf is there wiſdom; yet not in ſuch a manner that eſſence is firſt, and then wiſdom ſucceeds as ſecondary and an adjunct. Hence, no wiſdom is greater than this, but there ſcience itſelf is the aſſociate of intellect, becauſe they both germinate, and beam with divine ſplendors together: in the ſame manner as by a certain imitation they report that juſtice reſides with Jupiter. For every thing of this kind exiſts there like a lucid reſemblance perſpicuous from itſelf, ſo as to become the ſpectacle of tranſcendently happy ſpectators.

The magnitude and power therefore of wiſdom itſelf, is ſufficiently evident from its containing with itſelf, and producing beings: for all things which are true purſue wiſ-

ticular images of particular things in their ſacred concerns, to have occultly ſignified the diſcurſive energy of the thing itſelf. For indeed every image is a certain ſcience and wiſdom; it is likewiſe a ſubject; and is a ſpectacle collected into one; and is neither cogitation, nor counſel. But afterwards from this image, or wiſdom collected into one, an evolved reſemblance is produced in ſomething elſe, ſpeaking in a diſcurſive tranſition, and finding out the cauſes why things are thus inſtituted: while the thing thus beautifully diſpoſed, excites admiration. Hence it is ſaid that he will admire wiſdom, who conſiders how without containing the cauſes of her eſſence, ſhe affords to others which are faſhioned according to her nature, their particular mode of exiſtence. This beautiful diſpoſition of things then, which is ſcarcely manifeſt from enquiry, if any one ſhould diſcover, he muſt own it requiſite that in the intelligible world, things ſhould ſubſiſt previous to all argument and enquiry, as in one great nature which harmonizes the whole.

Can we think that this univerſe, which we confeſs to be derived and to exiſt in this manner, from another, was ſo compoſed by its artificer, that he thought within himſelf concerning the earth; and conſidered that it ought to reſt in the middle? And that afterwards he reaſoned concerning the connection of water with earth, and the orderly diſpoſition of things as far as to the heavens? But in the next place concerning all animals, and ſuch, and ſo many forms of particular vital beings, as they are at preſent; and the diſpoſition as well of the inward as of the external parts and members? And laſtly that he began to produce things in energy, as they were diſpoſed in himſelf? But ſuch a conſideration could not ſubſiſt with the artificer of the univerſe. For how could it take place in him, who had not as yet ſeen ſuch things in exiſtence? Nor is it poſſible that he could fabricate, by receiving external aſſiſtance, after the manner of human artificers, who operate with hands and inſtruments: for hands and feet were poſterior to his energy. It remains therefore that all things muſt ſubſiſt in their divine cauſe, and ſince no medium intervenes, that by the propinquity of being itſelf, to another, its image and ſimilitude ſhould as it were on a ſudden ſhine forth, whether from itſelf alone, or through the miniſtry of ſoul. For it is of no conſequence at preſent whether or not the world was fabricated properly through a certain ſoul, if it is but admitted that all things emanated from thence, and ſubſiſt there in greater beauty and perfection. For here they are mixt, but there they are pure. But this univerſe proceeding, from thence, is comprehended by forms from beginning to end. In the firſt place matter is the receptacle of the elementary forms, and of others in continual ſucceſſion; ſo that it is difficult to find matter, thus concealed under a multitude of forms. But ſince it poſſeſſes a certain ultimate form, it eaſily becomes the ſubject of every form. Hence ſince the exemplar of the univerſe is form, he produced all forms; and this without any difficulty or violence, becauſe the artificer there is a divine univerſe, and eſſence, and form. Hence too his fabrication

fabrication was eaſy, and without labour: for there was no impediment; and on this account he now rules over his work with abſolute dominion. And although ſome particulars are every where in oppoſition to others, yet they cannot now oppoſe the univerſal fabric, for it abides as the whole. Indeed I think if we were the firſt exemplars of things, and at the ſame time eſſences, and forms, and if the form which operates here was our eſſence, that our fabrication would rule without labour, though man as at preſent ſhould fabricate a form different from himſelf. For becoming man he ceaſes to be the univerſe: but when he ceaſes to be man as Plato ſays, he raiſes himſelf on high, and governs the world. *For being made of the whole, he alſo makes the whole.* But that we may return to our deſign, you may indeed produce a reaſon, why the earth is placed in the middle, and why it is round; or why the zodiac is ſituated in a certain place: but in the intelligible world it was not deliberated ſo to be, becauſe it was requiſite; but rather becauſe it is as it exiſts, on this account it is conſtituted as it ought: juſt as if previous to a ſyllogiſtic energy through cauſes, the concluſion itſelf ſhould remain indubitably certain, without any propoſitions. For nothing there depends on conſequences, nothing becomes certain from conſideration: but it ſubſiſts prior to conſequence, and all conſideration. For all theſe are poſterior, *reaſon, demonſtration, faith.* Since on account of the principle all theſe exiſt, and are thus diſpoſed. But it is rightly ſaid that the cauſes of the principle are not to be ſought after; eſpecially of a perfect principle, which is the ſame with the end: for that which is both principle and end, is at the ſame time the whole, and perfect in every part.

Intellect itſelf, therefore, is the firſt beauty; it is total, and is every where total, without ſuffering a defect of beauty in any part. What then is the beautiful itſelf to be called? Certainly, not any thing which is not the whole itſelf, but either poſſeſſes a part only, or is entirely deſtitute of its participation. Indeed unleſs this is the beautiful itſelf, what elſe can merit this appellation? For that which is prior to intellect, does not will itſelf to be beautiful, but is ſomething ineffably more excellent. Hence that which firſt preſents itſelf to our view, becauſe it is form, and a ſpectacle of intellect, is by this means lovely, and pleaſant to the ſight. On this account Plato wiſhing to intimate to us this truth, repreſents the demiurgus of the univerſe, approving his own perfect work; willing from hence to exhibit, by ſomething more manifeſt to our apprehenſion, the beauty of the exemplar, and of his great idea, as perfectly lovely. For as often as any one admires a work, fabricated according to an exemplar, he muſt particularly admire the exemplar itſelf. Nor ought it to ſeem wonderful if in the mean time ſuch a one, is ignorant of what he ſuffers: ſince terrene lovers, and thoſe who admire corporeal beauty, are ignorant that they are thus affected, on account of ſupernal beauty. But that Plato refers the demiurgus of the univerſe loving his work, to the divine exemplar, is evident from hence: for he ſays, that he was delighted with his work, and wiſhed to render it ſtill more ſimilar to its exemplar: evincing from this the

beauty of the exemplar, for ſays he its work is beautiful, becauſe it is the image of its artificer. For indeed unleſs that was ineſtimably beautiful, what would be more beautiful than this univerſe, which is ſubject to our corporeal ſight? On which account they do not percceive rightly, who detract from the beauty of this ſenſible world; unleſs in detracting they perceive that this univerſe is not the intelligible world.

Let us then receive by cogitation this our ſenſible world, ſo diſpoſed that every part may remain indeed what it is, but that one thing may mutually reſide in another. Let us ſuppoſe that all things are collected as much as poſſible into one, ſo that each particular object may firſt preſent itſelf to the eyes; as if a ſphere ſhould be the exterior boundary, the ſpectacle of the ſun immediately ſucceeding, and an image of the other ſtars, and the earth, the ſea and all animals ſhould appear within, as in a diaphanous globe: and laſtly let us conceive that it is poſſible to behold all things in each. Let there be then in the ſoul a lucid imagination of a ſphere, containing all things in its tranſparent receptacle; whether they are agitated, or at reſt; or partly mutable, and partly ſtable. Now preſerving this ſphere receive another in your ſoul, removing from this laſt the extenſion into bulk, take away likewiſe place, and baniſh far from yourſelf all imagination of matter: at the ſame time being careful not to conceive this ſecond ſphere, as ſomething leſs than the firſt in bulk, for this muſt be void of all dimenſion. After this invoke that divinity who is the author of the univerſe, imaged in your phantaſy, and earneſtly intreat him to approach. Then will he ſuddenly come, bearing with him his own divine world, with all the gods it contains. Then will he come, being at the ſame time one and all, and bringing with him all things concurring in one. There indeed all the gods, are various amongſt themſelves in gradations of power, yet by that one abundant power they are all but one, or rather one is all: for the divinity never fails, by which they are all produced. But all the gods abide together, and each is again ſeperate from the other in a certain ſtate unattended with diſtance, and bearing no form ſubject to ſenſible inſpection: or one would be ſituated differently from the other, nor each be in itſelf all. Nor again does any one of theſe poſſeſs parts different from others, and from itſelf: nor is every whole there a divided power, and of a magnitude equal to its meaſured parts; but it is indeed a univerſe, and a univerſal power, proceeding to infinity in a power, which is the parent of energy. But this divine world is ſo truly great, that its parts become infinite. For where can any thing be ſaid to exiſt, with which it is not extended? This ſenſible world too is great, and all powers are contained in its ample boſom: but it would be much greater, and that in a manner perfectly ineffable, if it was free from the diminutive power of body. And if it ſhould be ſaid that the power of fire and of other bodies is great, it muſt be remembered that true powers are infinite, and that it is only from an ignorance of theſe, that corporeal natures appear to have being, and to operate by corrupting, ſeparating, and miniſtring to the generation of animals. But theſe indeed corrupt, becauſe they are

themſelves corrupted, and they generate becauſe they are generated. But the power which flouriſhes there, poſſeſſes being alone, and is alone beautiful, without any external and adventitious qualities, which only derogate from the dignity of eſſence. For where can there be any thing beautiful, deprived of being? And where again can eſſence abide, if it wants the preſence of beauty? For while beauty is taken away, eſſence is deſtroyed. On this account being itſelf is deſirable, becauſe being, and beauty are the ſame: and the beautiful is lovely, becauſe it is being. But it is not proper to enquire which is the cauſe of the other, ſince the nature of each is one and the ſame. The falſe eſſences indeed of bodies, require a certain image of beauty, extrinſically acceding, both that they may appear beautiful, and that they may inherit an obſcure portion of being. For they ſo far partake of eſſence as they participate of beauty, conſiſting in form: and by how much the more they receive of this kind of beauty, ſo much the more of perfection do they inherit: for by this means a beautiful eſſence, and beauty itſelf is more peculiar to their nature.

On this account Jupiter himſelf, who is the moſt ancient of the other gods which he leads, proceeds firſt to the contemplation of the intelligible world. But afterwards the ſubordinate gods, dæmons, and ſouls follow him, who are able to perceive ſuch tranſcendently lucid objects. And this divine world ſhines upon them, from a certain occult place, which is no other than the abode of ineffable unity. But it illuſtrates all the divinities with its light: and excites to itſelf ſuperior ſouls who are afterwards converted to its ſplendid viſion, which before they were incapable of perceiving; and which like the ſun dazzles the eye unaccuſtomed to intellectual light. And while ſome with elevated eyes, eaſily bear its intuition, others who are more diſtant from its nature are diſturbed with the viſion. But ſince each of theſe bleſſed inhabitants, perceives according to his ability, all of them indeed behold this intelligible world, with its various contents, yet they do not all retain the ſame ſpectacle, but while they are loſt in attentive viſion, one beholds the lucid fountain and nature of the juſt itſelf, while another abundantly perceives temperance itſelf, but not ſuch as that which reſides with men, when they enjoy its poſſeſſion. For this our temperance imitates the ſupreme: but that diffuſing itſelf in all things, as if about all the magnitude of its nature, is finally perceived by thoſe, who have already beheld many perſpicuous ſpectacles. On this account the gods behold every thing ſeparate, and at the ſame time all things together: they perceive too divine ſouls there, whoſe viſion is univerſal; and their nature becomes ſuch from unbounded perception, that they contain all things from the beginning to the end.

Theſe divine objects therefore, Jupiter himſelf and thoſe of us who together with Jupiter love this intelligible world, happily contemplate, together with that univerſal beauty ſhining from all, and whatever participates of the beauty, which there abides. For every thing there glitters, and illuminates the ſpectators with its light, ſo that they become

become beautiful by its luſtre: juſt as it happens to thoſe who aſcend the higheſt mountains, where the earth is yellow: for they are immediately infected with the colour, and become ſimilar to the earth, to which they aſcend. But the colour which flouriſhes in the divine world is beauty itſelf; or rather every thing there is wholly colour, and profound beauty. For beauty there, is not like that which flouriſhes in the ſuperficies of bodies: but among thoſe who do not perceive the whole, that alone which is reſplendent in the ſuperficies is conſidered as beauty. But thoſe who are totally filled with the intoxicating nectar of divine contemplation, ſince beauty diffuſes itſelf through every part of their ſouls do not become ſpectators alone. For in this caſe the ſpectator is no longer external to the ſpectacle: but he who acutely perceives, contains the object of his perception in the depths of his own eſſence; though while poſſeſſing, he is often ignorant that he poſſeſſes. For he who beholds any thing as external, beholds it as ſomething viſible, and becauſe he wiſhes to perceive it attended with diſtance. But whatever is beheld as *perceptible*, is beheld externally: but it is requiſite we ſhould tranſfer the divine ſpectacle into ourſelves, and behold it as one, and as the ſame with our eſſence: juſt as if any one hurried away by the vigorous impulſe of ſome god, whether Apollo or one of the Muſes, ſhould procure in himſelf the intuition of the god; ſince in the ſecret receſſes of his own eſſence, he will behold the divinity himſelf. But if any one of us who is not able to perceive himſelf entirely comprehended by this divinity, ſhould produce a ſpectacle into his view, for the purpoſe of aſſiſting his viſion, he ſhould produce himſelf; and he will then perceive an image of the intelligible world, now become more beautiful and divine. But afterwards neglecting the image although beautiful, and conſpiring with himſelf into one, and no longer ſeparating his eſſence, he will become *one all* together with that deity, who ſilently flows into his ſoul; and he will be preſent with him as far as he is able, and as much as he deſires. But if he ſhould return from this divine union into two, and is in the mean time pure, he will nevertheleſs dwell proximate to its eſſence; ſo that by converſion, he may again be preſent and become united with his divinity. But the gain of the ſoul will conſiſt in this ineffable converſion. Indeed, when it firſt attempts this union, it perceives itſelf, as long as it is different from the god: but when it has penetrated into its moſt intimate receſſes, it will then find itſelf in poſſeſſion of the intelligible univerſe; and caſting ſenſe behind, fearing leſt it ſhould become different, it will be one with this divine world. And if it deſires to perceive as ſomething different, it will place itſelf external to its object. But it is requiſite that the ſoul which is about to perceive a divinity of this kind, ſhould poſſeſs a certain figure of his nature, and aſſiduouſly perſevere, while it endeavours perſpicuouſly to know him; and thus well underſtanding the importance of its purſuit, and truſting it is about to enter on the moſt bleſſed viſion, ſhould profoundly merge itſelf in contemplation, till inſtead of a ſpectator, it may become another ſpecimen of the object of its intuition; ſuch as it came from thence, abundantly ſhining with intellectual conceptions.

But

But how can any one reſide in the beautiful itſelf, unleſs he perceives it? Indeed, if he perceives it as ſomething different, he will not as yet abide in beauty. But becoming beautiful, he will thus eſpecially exiſt in beauty. If then viſion is directed to ſomething external, it is not proper that viſion ſhould be there, or if it is it ſhould become one with the object of perception. But a doubt of this kind is like a certain conſciouſneſs of ſome one fearing, leſt if he wiſhed to perceive more vehemently, he ſhould depart from himſelf. For thus diſeaſe more vehemently impels and excites our ſenſation: but health dwelling with us more quietly, exhibits a truer knowledge of itſelf, ſince it is preſent with ſilence and tranquillity, as ſomething familiar and allied to us; and conſpires into one with our compoſition. On the contrary diſeaſe poſſeſſes nothing domeſtic, but is entirely foreign from our nature; and hence its preſence is more manifeſt on account of its diverſity: but ſuch things as are peculiarly our own, are preſent with us, without any manifeſt ſenſation. So that when we are in this condition, we are then moſt of all known to ourſelves; ſince our ſcience in this caſe is one and the ſame with our eſſence. Hence, in the divine world, when we are moſt knowing according to intellect, we appear to be ignorant, expecting the paſſion of ſenſe, which ſays it does not perceive; nor indeed does it ſee; nor can it ever attain to the intuition of ſuch exalted objects. That which diſtruſts its viſion then is ſenſe: but it is ſomething elſe which perceives. And if this too ſhould doubt, it is no longer its true ſelf. For neither can this laſt when it places itſelf externally, behold that which is intelligible, as if it were ſenſible, and to be ſeen with corporeal eyes.

But it has been ſhewn how the ſoul may be able to accompliſh this as different from its object, and how when the ſame. But what will the perceiver relate whether abiding as different, or the ſame? He will tell that he ſaw this god, who is the ſame with the intelligible world, generating a beautiful ſon, and producing all things in his eſſence without any labour and fatigue. For this deity being delighted with his work, and loving his progeny, continues and connects all things with himſelf, pleaſed both with himſelf, and with the ſplendors his offspring exhibit. But ſince all theſe are beautiful, and thoſe which remain within are ſtill more beautiful, Jupiter the ſon of intellect alone ſhines forth externally, proceeding from the ſplendid retreats of his father. From which laſt ſon, we may behold as in an image, the greatneſs of his ſire, and of his brethren thoſe divine ideas, who abide in occult union with their father. But this ultimate progeny does not affirm in vain, that he proceeds from his parent intellect: for he is another world, proceeding from this firſt, and becoming beautiful, like an image of beauty. For it is not lawful that the image of beauty and of eſſence, ſhould not be beautiful. Hence, he in every reſpect imitates his exemplar. For he poſſeſſes life, and the gift of eſſence as a certain imitation of ſtable eſſence, and life ever vigilant: he poſſeſſes alſo beauty, ſo far as he proceeds from thence; and perpetual duration, as a moving image of the eternity of intellect abiding in one:

for

for if this is not admitted, he would at one time exhibit his image and not at another. But he is not an image fabricated by art; and every image formed by nature, laſts as long as its exemplar endures. Hence they do not conceive rightly, who think this world may be deſtroyed, that which is divine remaining in the full perfection of its eſſence, and thus imagine the world generated, and that its author on a certain time conſulted concerning its production. Such as theſe indeed neither wiſh to underſtand, nor are at all acquainted with the mode of its formation, and are ignorant that ſo long as the ſplendors of that divine world endure, ſo long will this viſible univerſe beam from thence, and will never be deſtroyed, ſince the original of each is the ſame. But the intelligible world always was, and always will be: appellations of this kind being adopted from neceſſity, for the purpoſe of conveying the conceptions of our minds.

Saturn, therefore, who according to poetical fable is feigned bound, becauſe he always perſeveres in the ſame divine energies of his nature: who is alſo reported to have delivered the government of this univerſe to his ſon Jupiter (for it was not proper that he having diſmiſſed his government, ſhould follow a nature junior and poſterior to himſelf, ſince he comprehends in himſelf the plenitude of all beauty.) Saturn, I ſay, omitting all ſubordinate natures eſtabliſhed in himſelf his father Cælum, and raiſed himſelf on high as far as to this ineffable principle. He likewiſe eſtabliſhed ſucceeding natures originated poſterior to him, from his ſon. And thus he poſſeſſes a middle ſituation between both, through a diverſity of ſection from that which is above him, and from his abſtaining from inferior concerns, while he is fabled by a ſubordinate care to be bound in chains; thus obtaining a middle ſituation between his greater father, and his inferior ſon. But ſince his father Cælum, is ſomething greater than beauty, hence Saturn or intellect is the firſt beauty, though ſoul is likewiſe beautiful: yet intellect is more beautiful than ſoul, becauſe ſoul is only its veſtige; and is naturally beautiful through this, though it is far more beautiful when it beholds the perfect nature of intellect. If then the ſoul of the univerſe (that we may uſe words more generally known), and Venus herſelf is beautiful, what muſt be the beauty of intellect? For if ſoul and Venus poſſeſs this from themſelves, how great muſt be the ſplendor of intellect? But if from another, from whom does ſoul poſſeſs the beauty as well acceding, as natural to her eſſence? Indeed, whenever we are beautiful, we become ſo from the poſſeſſion of our own nature alone: but we are baſe, when we are precipitated into an inferior nature. So that we are beautiful when we know, but baſe when we are ignorant of ourſelves. Beauty, therefore, ſhines in Saturn or intellect, with primary ſplendors. But are theſe conſiderations ſufficient to a knowledge of the divine world the intelligible place? Or muſt we proceed another way in its inveſtigation?"

And thus much for the doctrine of Plotinus, as delivered by him in the two preceding ineſtimable books. I ſhall only only add the following obſervations concerning the Platonic

Platonic triad of principles, as conceived and illuſtrated by this extraordinary man, and ſome reflections concerning the Chriſtian trinity, with which I ſhall take my leave of Plotinus.

According to Plotinus then, as the divinely ſolitary principle of things is perfectly ſimple, it neceſſarily follows that he muſt be perfectly ſufficient, and perpetually exuberant. Hence, he muſt be a producing cauſe; and that which he firſt produces, muſt be the moſt ſimilar of all things to himſelf. Andthis is no other than intellect, or the intelligible world, the nature of which as been ſo divinely explained by this philoſopher, in the preceding book. Now this intelligible world on account of its perfect ſimilitude to the one, contains all multitude in occult and indiſtant union: for it is requiſite that multitude ſhould exiſt occultly, before it is ſcattered abroad and diffuſed into ſeparate forms; and that it ſhould be concealed in the profound receſſes of intellect, before it emerges into the diffuſed ſplendors of multitude perfectly divided and diſcreet. Juſt as the duad is poſterior to unity, and contains number, without being perfect number itſelf. But as it is neceſſary that this occult multitude, ſhould be perfectly diffuſed, in order to the actual diverſity of things, and the exiſtence of the ſenſible world, hence a third proceſſion originates, in which multitude no longer ſubſiſts in indiviſible union, but proceeds from the ſanctuary of intellect into abſolute diverſity and ſeparation. And this third principle is no other than ſoul, which expands the impartibility of intellect, and unfolds all that was involved in the unity of intellectual perception. Now, beſides theſe, there can be no other principles: for after the cauſe by which multitude is perfectly evolved, nothing but the gradation and diverſities of multitude can ſubſiſt. Hence, as Plotinus juſtly obſerves *, "we ought not to entertain any other principles, but having eſtabliſhed the *ſimple good* as firſt, we ſhould place the ſupreme intellect as the next, and then the univerſal ſoul as the third in deſcent. For this is the proper order according to nature, neither to make more, nor leſs intelligibles than theſe three. For he who contracts the number of theſe, muſt of neceſſity either ſuppoſe ſoul, and intellect to be the ſame, or elſe intellect and the firſt good. But that all theſe three are different from each other we have often aſſerted and proved."

It muſt here, however, be obſerved, as Dr. Cudworth juſtly remarks †, that this third hypoſtaſis or principle, is not the immediate ſoul of the world (according to Plotinus, and the beſt of the Platoniſts) but ψυχὴ ὑπερκοσμία, a ſupermundane ſoul. For thus Proclus plainly aſſerts ‡, not only of Amelius, but alſo of Porphyry, who followed Plotinus in this particular. "After Amelius, Porphyry, thinking to agree with Plotinus, calls the ſupermundane ſoul, the demiurgus of the world, and that intellect to which it is converted not the demiurgus, but the paradign of the world:" Indeed, this ſupermundane ſoul muſt be too nearly allied to the ſupreme intellect, to become

* En. 2. l. 9. c. i. † Intellectual Syſtem, p. 562. ‡ In Timæum. p. 93. 94.

the immediate animating principle of the world; and as the gradation of things throughout the univerſe, ſubſiſts by the moſt gentle and eaſy declenſion, the deſcent would be precipitate, to make the higheſt ſoul connected with the mundane body. Beſides as multitude ſubſiſts retired and concealed in the ſupreme intellect, ſuch an intellect cannot be the artificer of the world, ſince all forms reſide there in ſtable and indiviſible union: but a proceſſion and extenſion of theſe forms is requiſite to the production of the viſible univerſe. And as every cauſe is ſuperior to its effect, and as the mundane ſoul muſt be connate with the world, hence the demiurgus of the world, muſt be ſuperior to the mundane ſoul.

Such then is the Platonic triad, compoſed from three diſtinct, and different principles; and having no ſimilitude except in name, to the trinity of the Chriſtian faith, as eſtabliſhed by *law*. The Platonic philoſophers indeed took a bold flight, for they ſoared to the principle of things, and drew abundantly from the ineffable and eternal fountain of good: but they never roſe ſo high as to diſcover that the three perſons of their triad were identically one. As men merely aſſiſted by the illuminations of intellect, they ſaw the neceſſity of three principles, to the exiſtence of the univerſe, but they had not not yet penetrated the awful veil of the moſt myſtic theology, and beheld the triple deity, ſeated on the tremendous throne of *unintelligible* faith. They were capable of demonſtrating that the principle of all was perfectly *ſimple* and *one*: but their eyes were not acute enough to ſurvey the *triplicity* of the *one*. Had they but been bleſt with the *lights* of the moderns, what wonders would have opened to their view! They would then have underſtood the trinity in unity, and the godhead in the manhood, abſurdity involved in myſtery, and myſtery in abſurdity. In ſhort, they would have diſcovered, that the ſupreme ſo ſo far from being ſeparate from multitude, and ſuperior to eſſence itſelf, as they fondly imagined, took upon himſelf the actual form of a man, that he might enlighten the the vileſt and moſt obſcure of mankind, and that by ſuffering an ignominious death, he might appeaſe his own wrath, and ſatisfy the vengeance of his injured deity. However, an impartial reader muſt confeſs, that conſidering their ignorance of theſe ſublime particulars, their diſcoveries were admirable and profound; and a ſagacious modern will doubtleſs rejoice to find that they believed in a god, who was the principle of things, though at the ſame time they were ſo blind, as not to perceive that like *Cerberus* he was triple!

SECT.

SECTION II.

PORPHYRY the favourite diſciple of Plotinus next demands our attention: but unfortunately we have ſcarcely any other particulars of his life, worthy our attention, than thoſe we have already delivered in the hiſtory of Plotinus. I ſhall, therefore, only add, that he was born at Tyre, in the twelfth year of the emperor Alexander Severus, and of Chriſt 233; and that he died at Rome more than ſeventy years old, in the latter part of the emperor Diocleſian's reign. Of his great abilities we have already given ample teſtimony: it now remains that we ſhew how much he contributed to the reſtoration and perfection of the Platonic theology. We are informed by Proclus *, that it was uſual with Plato, and his moſt genuine aſſociates, to call all beings, by the appellation of intellect. "Hence (ſays he), in many places they eſtabliſh *the good intellect, and ſoul*, as the three principles of things, calling intellect *every being*." Now this was eminently the caſe with Plotinus, who in intellect or the intelligible world, comprehends all the intelligible gods, all true beings, and the multiform variety of ideas. Hence, he was more anxiouſly employed in profoundly inveſtigating the nature of this divine world, than in ſcientifically unfolding the order of the beings it contains. Indeed, his genius on every ſubject was more adapted to an intimate perception of the occult eſſence of a thing, than to explaining its gradual evolution, and deſcribing the mode of its participations. However, though he did not proſecute the more particular proceſſions of divinity himſelf, yet he took care to infert the principles of this ſublime inveſtigation, in his writings; and to lay the foundation of that admirable and beautiful ſyſtem, which was gradually revealed by ſucceeding Platoniſts, and at laſt received its ultimate perfection, by the ſubtile and elegant genius of Proclus.

Porphyry, however, appears to have been the firſt who wrote any thing explicitly on this intereſting ſubject. "For he compoſed (ſays Proclus †) a treatiſe concerning principles, in which he demonſtrates by many and beautiful reaſons, that intellect is indeed eternal, but that it contains in itſelf ſomething more ancient than intellect, which is conjoined with the one." Now this ſomething which is more ancient than intellect, but inferior to the one itſelf, can be nothing elſe than an Henad, or poſterior monad; and if ſo there muſt be an order of Henades prior to that of intellects, which is moſt beautifully and copiouſly proved by Proclus, in his books on Plato's Theology, and is demonſtrated in the following theological inſtitutions. But that this was likewiſe the doctrine of Plotinus is plain from his own words ‡. "It is neceſſary (ſays he) that the principle and cauſe of intellect, and the deity himſelf, ſhould be preſent with the ſoul;

* In Plat. Theol. p. 151. † In Plat. Theol. p. 272. ‡ Ennead. 5. p. 492.

life according to nature, will render it prompt for this moſt exalted employment. For this ſpirit underſtands the affection of the ſoul, and is not deſtitute of ſympathy towards it, like its teſtaceous veſtment the body, which has a condition oppoſite to the more excellent affections of the ſoul. But the primary and proper vehicle of this phantaſtic ſpirit, when the ſoul is in a flouriſhing condition, is attenuated and etherial: but when the ſoul is badly affected, then this vehicle is dulled, and becomes terrene. For this phantaſtic ſpirit is ſituated in the confines of the rational and brutal nature, is of an incorporeal and corporeal degree; and is the common boundary of both, and the medium which conjoins divine natures with the loweſt of all. On this account it is difficult to comprehend its nature by philoſophy: for it collects that which accords with itſelf, as it were from neighbouring natures, and from the extremes of each; and comprehends in one eſſence things ſeparated by ſo great an interval from its own. But nature extends the latitude of a phantaſtic eſſence, through many conditions of things: for it deſcends even to animals to whom intellect is not preſent. In this caſe, however, it is no longer the vehicle of a diviner ſoul, but preſides over its ſubject powers, becomes the reaſon of the animal with which it is connected, and is the occaſion of its acting with much wiſdom and propriety.

"But this phantaſtic ſpirit may be even purified in brutes, ſo that ſomething better may be induced; and all the genera of dæmons derive their eſſence from a life of this kind, for their whole eſſence is compoſed from the phantaſy, and from inward imaginations. But many of the energies of the human nature conſiſt from this alone, or if from ſomething elſe, yet this prevails the moſt: for we are not accuſtomed to cogitate without imgination, unleſs ſome one ſhould perhaps for a moment be able to paſs into contact with an immaterial form. But to tranſcend the phantaſy in rational energies, is not leſs difficult than bleſſed. Hence (ſays Plato) the poſſeſſion of intellect and wiſdom in old age is deſirable above all things, ſignifying by this, intelligence ſhining without imagination; becauſe intelligence when converſant with a common life, belongs to the phantaſy, or at leaſt to an intellect energizing through the medium of the phantaſy. Hence too, this animal ſpirit which divine men have denominated the ſpiritual ſoul, becomes a god, and an omniform dæmon, and an image, in which the ſoul ſuffers the puniſhment of its guilt. And in conformity with this the oracles alſo compare the life of the ſoul in this animal ſpirit to the imaginations of dreams. Philoſophy too, agrees in aſſerting, that preceding lives are certain preparations to thoſe in a ſubſequent order, while the poſſeſſion of the beſt habit in ſouls renders this ſpirit more adapted to elevation, and wipes away the profound ſtains of a baſer affection. Hence by natural allurements, this ſpirit is either elevated on high, on account of its heat and dryneſs, which Plato ſignifies by the wings of the ſoul, and Heraclitus when he ſays, *that a dry ſoul is the wiſeſt*: or becoming bulky and humid, it merges itſelf in the receſſes of the earth by a natural gravity; and is thus concealed in darkneſs, and hurled into a ſubterranean

ranean region *. For a place of this kind is peculiarly adapted to humid ſpirits; and the life there is unhappy, and obnoxious to puniſhment. It is however poſſible by labour and time, and a tranſition into other lives, for the imaginative ſoul when purified, to emerge from this dark abode: for it paſſes its courſe through lives of a twofold nature; and alternately approaches to ſuperior and ſubordinate conditions of being.

" But the ſoul in its firſt deſcent, derives this ſpirit from the planetary ſpheres, and entering this as a boat aſſociates itſelf with the corporeal world, earneſtly contending that it may either at the ſame time draw this ſpirit after it, in its flight, or that they may not abide in conjunction. Indeed it is rarely though poſſible to be accompliſhed, that the one deſerts the other in deſcending to the earth: for it is unlawful not to believe in myſteries of known credibility and truth. But the ſouls' regreſſion will be baſe, if ſhe neglects to reſtore, that which is foreign from her nature, and leaves about the earth, what ſhe had received from on high. And this indeed one or two may obtain as a gift of divinity and initiation. For it is inſtituted by nature, that the ſoul, once ſeated in this phantaſtic ſpirit, ſhould either follow, or draw, or be drawn, yet ſo as to remain copulated with this ſpirit, till it again aſcends from whence it came. Hence when on account of its depravity this ſpirit grows heavy, at the ſame time, it draws down the ſoul, which had yielded to its gravitation. And the dread of this is what the oracles announce to our intellectual conceptions, when they adviſe: *Nor decline be-*

* This is excellently amplified by Porphyry in Senten. 32. p. 232. " As the ſoul's reſidence on the earth, (ſays he) does not conſiſt in being converſant in the earth, as bodies, but in preſiding over bodies ſituated on the earth: ſo likewiſe the ſoul is ſaid to be in Hades, when ſhe preſides over her image, which has a nature accomodated to place, but then obtains a ſubſiſtence in darkneſs. Hence if Hades is a ſubterranean dark place, the ſoul though not ſeparated from being, dwells in this caſe in Hades, attracting to herſelf her image. For the ſpirit which ſhe had collected from the ſpheres, attends her in her departure from a ſolid body. But from her affection towards body, reaſon having a partial object, according to which, ſhe obtained a habitude towards a body of this kind, while ſhe lived; from this propenſe affection, a form of the phantaſy is impreſſed on the ſpirit, and ſo ſhe attracts the image. But ſhe is ſaid to be in Hades, becauſe ſhe obtains a ſpirit of a formleſs and dark nature: and ſince a heavy and humid ſpirit, extends to ſubterranean places, on this account alſo the ſoul is ſaid to dwell under the earth; not becauſe her eſſence paſſes from place to place, and ſubſiſts in place, but becauſe it receives the habits of bodies endued with a natural inclination to local tranſitions, and the poſſeſſion of place. And bodies of this kind indeed, receive the ſoul, according to aptitudes, from a certain diſpoſition towards her nature. For according to her particular diſpoſition, ſhe finds a body defined, correſpondent to her order and properties. Hence when the ſoul is in a more pure condition of being, a body is natural to her, approximating very nearly to that which is immaterial; ſuch as an etherial body. But when ſhe proceeds from reaſon to the object of imagination, ſhe naturally obtains a ſolar-form body; and when effeminated and captivated with the love of forms, ſhe is united with a lunar-form body. Laſtly, when ſhe falls into bodies compoſed from humid vapours, a perfect ignorance of being ſucceeds, and darkneſs and infancy. And indeed in her egreſs from body, when ſhe retains a ſpirit diſturbed by a humid evaporation, ſhe attracts a ſhade, and is weighed down; a ſpirit of this kind, endeavouring to dwell naturally in the bottom of the earth, unleſs ſome other cauſe draws it into a contrary place. As therefore when ſurrounded with this terrene ſhell, it is neceſſary ſhe ſhould reſide on the earth; ſo likewiſe when ſhe attracts a humid ſpirit, it is neceſſary ſhe ſhould be ſurrounded with the *image*. But ſhe attracts moiſture, when ſhe continually ſtudies to be preſent with a nature, whoſe operation conſiſts in moiſture, and is moſtly ſubterranean. But when ſhe endeavours to depart from nature, ſhe becomes a dry ſplendor, without a ſhadow, and without a cloud: for humidity conſtitutes a cloud in the air; but dryneſs produces from vapour, a dry ſplendor."

neath

reath, into the obſcure world, whoſe depth is always an unfaithful bottom, and an infernal darkneſs, ſqualid, rejoicing in ſhadows, and full of ſtupidity and folly. For how can a ſtupid and fooliſh life be expedient to intellect? But the inferior region, accords with the image, or ſpiritual ſoul, on account of an affection of ſpirit correſponding with ſuch a place: for like rejoices in like.

"On this account, if by conjunction, one is produced from the two, intellect alſo will be merged in pleaſure. But the extremity of all evils conſiſts in not perceiving the preſent evil: for this belongs to ſuch as have no deſire to emerge, but like thoſe whoſe ſkin is hardened by diſeaſe, as they are no longer tormented with pain, ſo neither are they anxious to be cured. Hence penitence poſſeſſes a peculiar power of re-elevating the ſoul. For he who endures his preſent ſtate with ſorrow and remorſe, will meditate his flight: *and the will is the greateſt part of purgation.* Indeed through the means of this both our deeds and diſcourſes extend their hands to aſſiſt us in our aſcent: but this being taken away the ſoul is deprived of every purifying machine, becauſe deſtitute of aſſent, which is the greateſt pledge of reconciliation. Hence both here and elſewhere, puniſhments bring with them the greateſt utility to the order of things, while they oppoſe moleſtation to delight, and baniſh ſtupid pleaſure from the ſoul. Misfortunes too, which are ſaid to happen contrary to our deſerts, are of the greateſt advantage in extirpating the affections by which we are captivated with externals: and thus the doctrine of a providence is confirmed to the intelligent, from the very circumſtances which produce diffidence in the ignorant. For no place would be left for the ſoul to take her flight from the dominion of matter, if in the preſent ſtate ſhe lived free from the incurſions of evil: and hence it is proper to believe, that the præfects of the infernal regions have invented vulgar proſperities, as the ſnares of the ſoul. It may therefore be ſaid that ſouls emigrating from hence drink of oblivion: but the cup of oblivion is extended to ſouls entering into the preſent life, by pleaſure and delight. For when the ſoul deſcends ſpontaneouſly to its former life, with mercenary views, it receives ſervitude as the reward of its mercenary labours. But this is the deſign of deſcent, that the ſoul may accompliſh a certain ſervitude to the nature of the univerſe, preſcribed by the laws of Adraſtia, or inevitable fate. Hence when the ſoul is faſcinated with material endowments, ſhe is ſimilarly affected to thoſe, who though free born, are for a certain time hired by wages to employment, and in this condition captivated with the beauty of ſome female ſervant, determine to act in a menial capacity under the maſter of their beloved object. Thus in a ſimilar manner, when we are profoundly delighted, with external, and corporeal goods, we confeſs that the nature of matter is beautiful, who marks our aſſent in her ſecret book: and if conſidering ourſelves as free we at any time determine to depart, ſhe proclaims us deſerters, endeavours to brink us back, and openly preſenting her myſtic volume to the view, apprehends us as fugitives from our miſtreſs. Then indeed the ſoul particularly requires fortitude, and divine aſſiſtance, as it

it is no trifling conteſt, to abrogate the confeſſion and compact which ſhe made. Beſides in this caſe, force will be employed: for the material inflicters of puniſhments will then be rouſed to revenge, by the decrees of fate, againſt the rebels to her laws. And this is what the *ſacred diſcourſes* (ἱεροι λογοι) * teſtify by the labours of Hercules, and the dangers which Hercules was required to endure; and which every one muſt experience who bravely contends for liberty, till the phantaſtic ſpirit becomes ſuperior to the dominion of nature, and is placed beyond the reach of her hands.

"But if this leap from matter ſhould happen within the boundaries of nature, the ſoul will be depreſſed, and require more weighty conteſts: for matter now fully convinced that we are fugitives, will not be ſparing of puniſhment; and though we may deſpair of our aſcent, ſhe will chaſtize us for the endeavour, and no longer propoſe our choice of living from two urns, which Homer occultly intimates are two portions of matter. And Jupiter himſelf in this place, according to the ſame divine poet, is the moderator of matter, diſtributing a twofold condition of fate; from which good is never found ſincere, and without a mixture of evil, though it is poſſible that ſome unfortunate being may participate of the worſe condition without any portion of good.

"In ſhort all lives are converſant with the fluctuations of error, when the ſoul does not ſpeedily return, after its firſt deſcent. But conſider with how great an interval, this ſpirit energizes in our nature: for when the ſoul is inclined downwards, *the ſpirit alſo (according to the ſacred diſcourſe) grows heavy, and ſinks, till it falls into a region profoundly dark: but when the ſoul riſes from this obſcurity, the phantaſtic ſpirit alſo attends it, as far as it is able to follow.* And it will attend, till the ſoul arrives at a condition of being the moſt oppoſite from its nature. Hear too, what the oracles declare on this occaſion. *Nor ſhould you leave the moſt abject part † in the precipice of matter: for there is a place for the image*

* This *ſacred diſcourſe* compoſed by Pythagoras was twofold; one in verſe, mentioned by Heraclides, and the other ΠΕΡΙ ΘΕΩΝ, in Doric proſe, both which are unfortunately loſt. It appears, however, from the preſent paſſage, that a part of one of them conſiſted in explaining the labours of Hercules, who, like Ulyſſes, is an allegorical character, repreſenting the progreſs of a man from the impurity of a ſenſible life, till he acquires the perfection and purity of a life intellectual and divine. Hence Proclus on Plato's Republic, p. 382. "Hercules being purified by ſacred initiations, and having acquired undefiled advantages, deſerved a perfect eſtabliſhment among the gods." We may conceive, therefore, that by the club of Hercules is meant philoſophy, and by his lion's ſkin, prudence; through whoſe aſſiſtance he tamed the paſſions, thoſe monſters of the ſoul, and deſtroyed vain cogitations: both which are occultly ſignified by the twelve labours he endured. I only add that Petavius appears to have been entirely ignorant, that any ſuch writings as the *ſacred diſcourſes*, ever exiſted: for he tranſlates them in one place *ſacra hiſtoria*, and in another, where they are mentioned in the ſingular number, (λογος) *noſtra hac oratio*. Such ignorance may be excuſable in the modern prieſt; but as a man of learning Petavius cannot be defended by any apology in ſuch vile tranſlations.

† The Scholium of Nicephorus upon this paſſage is as follows: "Syneſius (ſays he) calls the droſs of matter, that which the phantaſy, deſcending from the ſupernal ſpheres, derives from the natural elements of fire and air. And this he obſerves it is not lawful to leave in the precipice of matter, viz. in the world every way obſcure and dark, but it is requiſite to draw it upwards, by the aſſiſtance of temperance, continence, and the other virtues, and to elevate it to the ethereal world: ſince there is a place allotted for *nature*, and the image,

image in the region every where refplendent with light. But this place is oppoſed to the region totally dark; and to him who acutely perceives, a ſtill deeper meaning will be found in the words. For the oracle not only ſeems to recal into the ſpheres, the nature which had proceeded from thence, but alſo intimates that whatever of ſublime fire or air, the ſoul deſcending from on high, had attracted into a phantaſtic eſſence, before ſhe was inveſted with this terrene bark, muſt be elevated together with the more exalted part. For the dregs of matter, or the moſt abject part, cannot ſignify a divine body. But reaſon dictates that things which communicate, and conſpire in unity, cannot be deſtitute of mutual relation, and connection with each other, particularly when the places of their reſidence have a kindred poſition: as fire is proximate to an orbicular body, and does not like the earth poſſeſs the extremity of things.

"Again, if better natures yielding to the ſubordinate, ſhould at any time unite in conjunction with theſe, they would produce in matter an indiſſoluble body, from their ſuperior dominion: and in this caſe perhaps, the baſer nature, no longer oppoſing the energy of the ſoul, but becoming gentle, obedient, and obſequious, and exhibiting the middle nature of the phantaſtic ſpirit without diſſipation, may become etherial together with the dominion of the rational ſoul; may be the attendant of its elevation; and may aſcend if not to the ſummit of all, at leaſt to the extremity of the elements, and arrive at the region in every part lucid, and divine. For it poſſeſſes ſays the Oracle a certain place in this region, i. e. it is received into a certain order of an orbicular body. And thus much may ſuffice, concerning the parts and condition of the elements, which the reader may either believe, or reject as he pleaſes.

"But it cannot be denied that the corporeal eſſence of the phantaſtic ſpirit, when arrived at this place, is at the ſame time elevated with the returning ſoul, and adapted to to the ſpheres; or in other words it is brought back to its proper nature and priſtine condition. Theſe two regions, therefore, are ſituated in perfect oppoſition to each other: the one profoundly obſcure, but the other every way lucid, obtaining the extremities * of felicity and miſery. But how many middle regions do you think are ſituated

in the region every where lucid. But he calls the *image*, the phantaſtic ſpirit, as being connate to the rational ſoul, though of a ſubordinate nature. For as *intellect* is the reſemblance and image of the divinity, but the *rational ſoul* of intellect: ſo *the phantaſtic ſpirit*, or irrational ſoul, is the image of the rational ſoul. Hence, as *nature* or the natural ſoul, is the image of the phantaſtic ſpirit, and of this again *the body*, and of body, *matter*: on this account he obſerves that the phantaſy obtains a certain familiar proportion to the natures which communicate with it on each ſide, by a certain union and affinity, and by a tendency to the ſame common end. Hence in its deſcent it not only acquires fire and air, from the rational ſoul, which has a ſupernal ſituation, but likewiſe from the natural elements, which are placed beneath." Nicephori Scholia, p. 390.

* "Syneſius ſays that there are two extreme ſeats, the ſummits of the univerſe, one beneath, every way dark, the other above, wholly luminous; and that the former is miſerable, but the latter bleſſed. But becauſe oppoſites cannot be immediately copulated together, he aſſerts that in the middle of theſe two ſeats, there are are many other regions, differing from each other, which he denominates in one part luminous, and in the other obſcure, participating of the extremes, and beneath the region totally refplendent with light. Juſt in the ſame manner

as

ſituated in the concave ſpace of this mundane orb, partly lucid, and partly dark, in all which the ſoul lives, with this phantaſtic ſpirit, and alternately changes its forms, and manners, and life? When, therefore, it returns to its proper nobility, it becomes the ſtorehouſe of truth: for it is then pure and pellucid, and perfectly immaculate; and has power, if willing, to become a god and a prophet. But when it falls from this elevation, it becomes dark, erratic, and fictitious: for the obſcurity of the ſpirit, cannot perceive the perſpicuity of true beings. Laſtly, when it poſſeſſes a middle ſituation, it partly wanders, and partly purſues the truth. You may alſo by this means, explore a demoniacal nature, and its order: for to purſue truth entirely, or to wander but a little from its contemplation, is divine, or nearly divine. But a condition of being, erroneous in predictions, neceſſarily belongs to ſuch as are aſſiduouſly inclined to nature, who are obnoxious to paſſion, and perfectly ambitious: for by this means ſuch a condition becomes ſubterranean *, and forſakes divinity, and its more ancient dæmon; though by a contrary mode of proceeding it may reſume its priſtine aſſociations, and occupy the place prepared for a more excellent nature.

"And from hence we may apprehend the ſtate of the ſoul while connected with the preſent body: for he whoſe phantaſtic ſpirit, is pure and compoſed, and who, both waking, and ſleeping, receives true reſemblances of things, he indeed, poſſeſſes a token that the figure of his ſoul will paſs into a better condition of being. Nor is the judgment trifling which we may form reſpecting the affection of the animal ſpirit, from the imaginations which it principally produces, and in which it is employed, when free from external pulſation; philoſophy ſupplying us with judgment and admonition, reſpecting its nutriment, and the diligent care we ſhould employ to prevent its deviation from the right. But its beſt education conſiſts in always energizing according to an intuitive and perceptive power, and in taking care that the principal energy of the ſoul is always intellectual; and that as much as poſſible we always pre-occupy the abſurd and raſh impetuoſities of the phantaſy. But this is no other than a converſion of the ſoul to that which is beſt, and forſaking all communion with an inferior nature, except what the ſtrongeſt neceſſity compels us to adopt. But an intellectual perception above all things ſeparates, whatever is contrary to the true purity of the phantaſtic ſpirit: for it attenuates this ſpirit in an occult and ineffable manner, and extends it to divinity. And when it becomes adapted to this exalted energy, it draws by a certain affinity of nature, *a divine ſpirit*, into conjunction with the ſoul: as on the contrary when it is ſo

as *cogitation* is the medium between intellect and ſoul: but *opinion* is ſeated between the phantaſy and the ſoul; and *ſenſe* between the phantaſy and body. And theſe mediums mutually penetrate, and extend through each other, from body to intellect, and participate all their ſurrounding natures. As air poſſeſſes on each ſide two extremities and ſeats, by means of which, it is hot in its ſupreme ſituation, through its proximity to elementary fire, but humid in its inferior extremity, through its vicinity to water." Necephori Schola, p. 392.

* The Greek is very defective in this place, which I have endeavoured to ſupply, as the learned reader may obſerve.

contracted and diminiſhed by condenſation, that it cannot fill the ventricles of the brain, which are the ſeats aſſigned to it by providence, then, nature not enduring a vacuum, *an evil ſpirit* is inſinuated in the place of one divine. And what will not the ſoul ſuffer, when aſſiduouſly preſſed by ſuch an execrable evil? For ſuch is the conſtitution of things, that the regions of the phantaſtic ſpirit muſt either be filled with a ſuperior or ſubordinate nature: but the latter is the puniſhment of the impious, who defile the divine part of their eſſence; and the former is either the end of piety, or proximate to the end." Thus far the excellent Syneſius, who, I doubt not, was greatly indebted to Porphyry's book on the regreſs of the ſoul, for this admirable diſcourſe; as it is evidently pregnant with the moſt recondite theology. But let us conſider this intereſting ſubject more minutely.

Though the theurgical art is unfortunately loſt, by means of which we might obtain the beſt method of purifying the phantaſtic ſpirit; yet we muſt not ſuppoſe that it is utterly impoſſible to accompliſh this deſirable end, without its aſſiſtance. Syneſius in the preceding beautiful quotation informs us, "that an intellectual perception attenuates this ſpirit, in an occult and ineffable manner, and extends it to divinity." Indeed, nothing can ſo effectually contribute to ſeparate the phantaſy from this terrene body, as a continual intellectual illumination. Now this can only be acquired by long habits of meditation, accompanied with a vehement thirſt after truth, which gradually withdraw the ſoul from ſenſible perturbations, produce the contemplative virtues, and diſpel the darkneſs of corporeal imaginations. Science, indeed, is the firſt requiſite in acquiring this purification of the phantaſy, I mean the mathematical ſcience; by whoſe aſſiſtance, we firſt recognize the glimmerings of truth, and diſcover the dawning beams of intellect emerging, as it were, from the night of oblivion. When the liberal ſoul firſt diſcovers this light, though but feeble and tranſient, ſhe rejoices at the happy event, and is anxious to procure its continuance and increaſe. She now deſpiſes outward corporeal form, and becomes deeply enamoured with thoſe purer forms in the phantaſy, which ſhe has found to be the receptacles of truth. And this is the firſt degree of purification. But after this if by a fortunate event, from contemplating univerſals in imaginative figures, ſhe ſhould riſe to ſpeculate their ſubſiſtence in cogitation, and in the rational ſoul, ſhe will then diſcover a much brighter light; though even this will not be conſtant and ſerene: for it will be preſent only when ſhe is deeply engaged in ſuch *middle contemplations*. Indeed, as cogitation is the medium between ſenſe and intellect, ſo the light attending its energies, has a middle ſubſiſtence between the obſcurity of the former, and the invariable ſplendors of the latter. This light, however, will ſo purify the phantaſtic ſpirit, that all its images will poſſeſs a conſiderable degree of perſpicuity and luſtre. There now remains only the third ſtep, in order to produce the perfection of purity, and to conjoin the phantaſy with divinity: and this is no other than an intimate converſion of the ſoul to the energies of intellect. For by a long and vigorous exerciſe of this kind, a

conſtant

conſtant and ineffable light will continually illuminate the phantaſy, ſo as to render all its images pure and pellucid, and perfectly aboliſh the obſcurity of ſenſible impreſſions. We may add too, as a ſymbol of this exalted purgation, that a perpetual ſerenity, unceaſing delight, and occaſional rapture will be produced in the ſoul. The *will*, now entirely free will be intimately converted to that which is beſt; the deſires will breathe nothing but the ardour of intellectual energy; and the paſſions will no longer be at variance with reaſon. In this delightful ſtate, the vehicle of the phantaſtic ſpirit will become ſo attenuated and etherial, that all ſenſible harmony will waken the ſoul to an immediate recollection of ideal harmony; all external figure will recall to her memory ideal form; and all lucid bodies will repreſent with advantage to her inward eye the brighter light reflected in the mirror of imagination. Indeed, ſenſible light, will be found to poſſeſs a remarkable ſympathy with this purer light of the ſoul. For when this intellectual ſplendor is firmly introduced, and illuminates every part of the phantaſy, the ſmalleſt ſpark, and the moſt glimmering ray of external light, will call forth into energy that ſacred light, which is now perfectly ſeated in the ſanctuary of the ſoul. Such too will be the temperament of the ſoul in this caſe, that ſhe will ſpontaneouſly utter muſical ſounds, as indications of the harmony within; and as echoes of the perpetual felicity ſhe enjoys. And ſuch are the methods of acquiring, and ſuch the tokens of poſſeſſing purity of imagination, which he who obtains will underſtand; but which will appear incomprehenſible, and ridiculous to him, who is not advancing in its acquiſition.

And here it may not be improper to obſerve, that the phantaſy in this purified ſtate, affords indubitable tokens of the poſſeſſion of truth; and ſerves as an inſtrument by which we may diſcover falſe opinions from ſuch as are true. For the images attending the perceptions of reality, will always be lucid; and this in proportion to the certainty they contain. Hence, whenever the ſoul is full, and as it were, pregnant with true conceptions, certain bright phantaſms, as the progeny of her rational energies, will drop into the mirror of imagination, and appear like images clothed with light. For the phantaſy will now no longer be ſimilar to the dark and irriguous cavern of Calypſo (which appears to be the emblem of imagination in an unpurified ſtate), illuminated by fenſe as by an artificial fire; but it will be totally diaphanous and full of light. It will, indeed, in every reſpect reſemble the palace of Ithaca, when enlightened by the golden lamp of Minerva, during the removal of the arms by Ulyſſes and Telemachus. Of which we may ſay with the greateſt propriety:

> Not ſuch the fickly beams which unſincere,
> Gild the groſs vapour of this nether ſphere *.

And he who knows the truth of what I aſſert, may exclaim with rapture, like Telemachus:

* Pope's Odyſſey, book xix.

What

What miracle thus dazzles with ſurpriſe!
Diſtinct in rows the radiant columns riſe:
The walls where-e'er my wond'ring ſight I turn,
And roofs amidſt a blaze of glory burn!
Some viſitant of pure etherial race,
With his bright preſence deigns the dome to grace.

7. In the laſt place, we may deſervedly rank among the theological writings of Porphyry, his treatiſe *Concerning the Cave of the Nymphs*, in the 13th book of the Odyſſey. This admirable work is fortunately preſerved: and as it contains ſome deep arcana of the natural and ſymbolical theology of the ancients, together with ſome beautiful obſervations reſpecting the allegory of Ulyſſes, I perſuade myſelf the following paraphraſed tranſlation of this work, will be acceptable to the lovers of ancient learning and philoſophy.

"* What are we to underſtand by the Cave, in the iſland of Ithaca, which Homer deſcribes in the following verſes?

High at the head a branching olive grows,
And crowns the pointed cliffs with ſhady boughs.
A cavern pleaſant, though involv'd in night,
Beneath it lies, the Naiades delight.
Where bowls and urns, of workmanſhip divine,
And maſſy beams in native marble ſhine;
On which the Nymphs amazing webs diſplay,
Of purple hue, and exquiſite array.
The buſy bees, within the urns ſecure
Honey delicious, and like nectar pure.
Perpetual waters thro' the grotto glide,
A lofty gate unfolds on either ſide;
That to the north is pervious by mankind:
The ſacred ſouth t' immortals is conſign'd.

i. e. "an olive with ſpreading branches ſtands at the head of the Ithacenſian port; and near it is a cave both pleaſant and obſcure, which is ſacred to the nymphs who are called Naiades. Within the cavern, bowls and capacious amphora are formed from ſtone, in which the bees depoſit their delicious honey. There are likewiſe within the cave long ſtony beams, on which the nymphs weave purple webs wonderful to the ſight.

* There are three editions of this excellent work. The firſt Greek and Latin by Holſtenius, Cantab. 1655; the ſecond by Barnes, prefixed to his Homer; and the third by ſome German editor, which I have not ſeen.

Perpetual

poet, under its obſcure diſguiſe; who likewiſe places, with a myſtic intent, an olive at the entrance of the cave. All which particulars the ancients thought very laborious to inveſtigate and explain, and we who ſucceed them are of the ſame opinion, while endeavouring from our own inventions to unfold the concealed meaning of the allegory. Hence thoſe men appear to have written very negligently concerning the ſituation of the place, who believe both the cave and its contents, to be a mere poetical figment. But the beſt and moſt accurate writers of geography, and among theſe Artemidorus the Epheſian, in the fifth book of his work, which conſiſts of eleven books, thus writes: "The iſland of Ithaca, containing an extent of 85 ſtadii *, is diſtant from Panormus, a port of Cephalenia, about 12 ſtadii †. It has a port named Phorcys; in which there is a ſhore, and on that ſhore a cave ſacred to the nymphs, in which the Phæacians are reported to have placed Ulyſſes."

By no means therefore is this cave a mere Homerical figment. But whether the poet deſcribes it according to its real nature, or adds ſomething of his own invention, yet the ſame queſtions remain to be ſolved; whether you are diſpoſed to inveſtigate the intention of the poet, or of thoſe who conſecrated the cave. Since neither did the ancients conſecrate temples without fabulous ſymbols; nor is it uſual with Homer to relate any thing raſhly concerning their peculiarities. For indeed, by how much the more any one endeavours to ſhew, that this deſcription of the cave is not an Homeric fiction, but was conſecrated to the gods, before Homer's time; by ſo much the more he evinces, that this ſacred cave is filled with ancient wiſdom. On which account it is highly worthy our inveſtigation, and neceſſary that its ſymbolical conſecration and obſcure myſteries ſhould be rendered evident by the light of philoſophical enquiry.

Antiquity then with great propriety conſecrated caves and dens to the world, whether taken collectively as the univerſe, or ſeparately according to its parts. Hence they conſidered earth as the ſymbol of that matter from which the world is compoſed; ſo that, according to the opinion of ſome, matter and earth are the ſame: by the ſymbol of a cave, ſignifying the formation of the world from matter. For indeed caves are moſt commonly ſpontaneous productions, congenial with the earth herſelf, and comprehended by one uniform ſtone; whoſe interior part is concave, and whoſe exterior parts are extended over an immenſe ſpace of earth. But the world being ſelf-born, (i. e. produced by no external cauſe but from a principle within,) and in perfect ſymphony with itſelf, is allied to matter which they call, according to a ſecret ſignification, a ſtone and a rock. For like theſe hard bodies it is ſluggiſh and inert, and receives the impreſſion of ornamenting form: at the ſame time they conſidered it as infinite on account of its formleſs nature. But ſince it is continually flowing, and of itſelf deſtitute of the ſupervening inveſtments of ſpecies by which it is formed and becomes viſible, the flowing waters, darkneſs, or, as the poet ſays, obſcurity of the cavern exhibit apt ſymbols of what

* I. e. about ten Italian miles. † Viz. a mile and a half.

the

the world contains on account of that matter with which it is connected. Hence through the dark union of matter, the world is obſcure and dark, but from the preſence and ſupervening ornaments of form (from which its derives it name) it is beautiful and pleaſant. The world therefore may with great propriety be called a cave; agreeable indeed, at its firſt entrance, on account of its participation of form, but involved in the deepeſt obſcurity to the intellectual eye which endeavours to diſcern its dark foundation. So that its exterior and ſuperficial parts are pleaſant, but its interior and profound parts obſcure: and its very bottom is darkneſs itſelf. After the ſame manner the Perſians myſtically ſignifying the deſcent of the ſoul into an inferior nature, and its aſcent into the intelligible world, initiate the prieſt or myſtic in a place which they denominate a cave. For according to Eubulus, Zoroaſter firſt of all among the neighbouring mountains of Perſia, conſecrated a natural cave, florid and watered with fountains, in honour of Mithras the father of all things: a cave in the opinion of Zoroaſter bearing a reſemblance of the world fabricated by Mithras. But the things contained in the cavern, being diſpoſed by certain intervals, according to ſymmetry and order, were ſymbols of the elements and climates of the world. We find too that after Zoroaſter it was uſual with others to perform initiatory rites in caves and dens, whether natural or artificial. For as they conſecrated temples, groves, and altars to the celeſtial gods; but to the terreſtrial gods and to heroes altars alone, and to the ſubterranean divinities vaults and cells; ſo to the world they dedicated caves and dens; as likewiſe to nymphs, on account of the waters trickling, and diſperſed through caverns, in which the nymphs called Naiads, as we ſhall ſhortly obſerve, preſide. But the ancients not only conſidered a cave as the ſymbol of this generated and ſenſible world, but as the repreſentative of every inviſible power: becauſe as a cave is obſcure and dark, ſo the eſſence of theſe powers is unknown. Hence Saturn fabricated a cave in the ocean itſelf, and concealed his children in its dark retreats. Thus Ceres educated Proſerpine with her nymphs in a cave; and many other particulars of this kind may be found by any one who peruſes the writings of Theologiſts. But that caves are attributed to nymphs, and eſpecially to Naiads, who dwell near fountains, and are called Naiads from the waters over whoſe flowing ſtreams they preſide, the hymn to Apollo indicates in theſe words:

* "The nymphs reſiding in caves ſhall deduce fountains of intellectual waters to thee, (according to the divine voice of the Muſes,) which are the progeny of a terrene ſpirit. Hence waters burſting through every river, ſhall exhibit to mankind perpetual effuſions of ſweet ſtreams." From hence as it appears to me the Pythagoreans, and after them Plato took occaſion to call the world a cave and a den. For the powers which are the leaders and guides of ſouls thus ſpeak in a verſe of Empedocles.

"We will enter into this cave covered with rocks."

* Theſe verſes are not to be found in any of the hymns now extant, aſcribed to Homer.

And Plato in the ſeventh book of his Republic, ſpeaking of the condition of mankind in this ſenſible world, ſays, "Behold men as if dwelling in a ſubterranean cavern, whoſe entrance opens through the whole cave to the admiſſion of the light." But when the other perſon in the dialogue ſays, you relate an abſurd ſimilitude, he ſubjoins: "It is requiſite, friend Glaucus, to apply this ſimilitude to all that has been previouſly ſaid: aſſimilating this terrene habitation which is the object of corporeal ſight, to the dark reſidence of a priſon: but accomodating the fire ſhining in the receſſes of the cavern to the ſolar light." And thus it is ſufficiently evident, that theologiſts have conſidered a cave as a ſymbol of the world, and of the powers it contains. But we obſerved that they likewiſe conſidered a cave as the ſymbol of an intelligible eſſence; led to this opinion by reaſons very different from the former. For they placed it as a ſymbol of the ſenſible world, becauſe caverns are dark, ſtony and humid; reſembling in all theſe reſpects the world on account of the obſcure nature of that matter from which it is compoſed, the continual impreſſion of forms to which it is obnoxious, and the conſtant flowing of all its parts. But a cave reſembles intelligible eſſence, both becauſe inviſible to the eyes and ſenſe, and becauſe its ſubſtance is ſolid, firm, and durable. And in the ſame manner particular virtues or powers are inconſpicuous, eſpecially ſuch as are united with matter. For they did not conſider a cave as the ſymbol of a material and immaterial nature on account of its figure as ſome have ſuſpected: (ſince every cave is not circular as appears from this Homeric cavern with a double entrance) but from ſurveying the natural condition of caves, involved in the depths of obſcurity and night, and formed from the union of a hard and ſtony ſubſtance. Again, ſince a cave has a twofold ſimilitude, it muſt agree in ſome particulars with ſenſible ſubſtance, but in others with an intelligible eſſence. Thus the preſent cave ſince it contains perpetual waters, in this reſpect reſembles a ſubſtance united with matter, and not that which is immaterial and intelligible. On this account the cave is not ſacred to mountain divinities, to thoſe who dwell on hills, or to other deities of this kind, but to Naiads ſo called by the Greeks from νάμαλα, fountains; becauſe they preſide over waters: and this term is commonly applied to all ſouls paſſing into the humid and flowing condition of a generative nature. Theſe ſouls they conſidered as incumbent on the water, which is nouriſhed by a divine ſpirit as Numenius affirms: and hence a prophet ſaid, *that the ſpirit of God moved on the waters*. The Egyptians likewiſe on this account place all dæmons, not connected with any thing ſolid or ſtable, but raiſed on a ſailing veſſel; and it is known that humor invades the ſun itſelf, and all animals deſcending into generation. Hence Heraclitus obſerves "that it appears delightful, and not mortal to ſouls, when they are born connected with humidity." And he ſays in another place, ſpeaking of unembodied ſouls, "we live their death, and we die their life." Hence the poet calls men exiſting in generation διερούς, i. e. humid, becauſe their ſouls are drenched in moiſture. On this account too, ſuch ſouls delight in blood and humid ſeed: but water adminiſters nutri-

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ment to the ſouls of plants. Beſides, according to the opinions of ſome men aerial and celeſtial bodies, are nouriſhed by the vapours of fountains and rivers and other exhalations. Thus the Stoics aſſert that the ſun is nouriſhed by the exhalation of the ſea; the moon from the effluvia of fountains and rivers; but the ſtars from the exhalation of the earth. Hence according to them the ſun is a certain intellectual compoſition formed from the ſea; the moon from river waters; and the ſtars from terrene exhalations. It is neceſſary therefore that ſouls, whether they are corporeal or incorporeal, while they attract bodies, muſt verge to humidity, and be incorporated with humid natures; eſpecially ſuch ſouls, as from their material inclinations ought to be united with blood, and confined in humid bodies as in a watery tegument. Hence the ſouls of the dead are evocated by the effuſion of bile and blood: and ſouls inſnared by corporeal love, and attracting to their nature a humid ſpirit, condenſe this watery vehicle like a cloud; for a cloud is nothing more than humour condenſed in the air. But the pneumatic part thus condenſed, through too great an abundance of humour becomes the object of corporeal ſight. And among the number of theſe we muſt reckon thoſe apparitions of images, which from a ſpirit coloured by the influence of imagination, preſent themſelves to mankind. But pure ſouls are averſe from generation; on which account the ſame Heraclitus obſerves "a dry ſoul is the wiſeſt." But ſouls thus deſiring to be mingled with body, and attracting a humid vapour, by their propenſity to generation render their pneumatic part moiſt and wet, and by thus verging to the ever-flowing waters of generation, are deſervedly called Naiads. Hence it is cuſtomary with the Greeks to call nymphs γαμψινας, or married, as thoſe who are copulated to generation; and to waſh in a bath whoſe waters are derived from fountains or perpetual rills. This world then is ſacred and pleaſant to nymphs, i. e. to ſouls proceeding into a material nature, and to genii participating of generation, although it is naturally dark and opake; on which account ſome are of opinion that ſouls are compoſed from a certain aerial opacity. Hence a cave is a habitation peculiarly adapted to ſuch ſouls; ſince it is both pleaſant and obſcure, like this material region, in which ſouls reſide. A cave likewiſe through which perpetual waters flow is well adapted to nymphs, the divinities of waters. The preſent cave therefore muſt be allowed ſacred to ſouls, and to thoſe more particular powers denominated nymphs, who from their being præfects of rivers and fountains are called κρηναιαι and ναιδες, i. e. fountain and river divinities. What then are the different ſymbols, ſome of which correſpond to ſouls, and others to the divinities of waters, by which it may be manifeſt that this cave is at the ſame time dedicated and conſecrated to both? We reply that the ſtony bowls and urns are ſymbols of the aquatic nymphs. For veſſels of the ſame form are ſymbols of Bacchus; but their compoſition is teſtaceous, that is, from baked earth. And indeed ſuch as theſe are correſpondent to the gift of this god; ſince the fruit of the vine is brought to a proper maturity by the celeſtial fire of the ſun. But the ſtony bowls and urns, are moſt admirably accommo-

dated to nymphs preſiding over waters which flow from rocks. And what ſymbol is more proper to ſouls deſcending into generation, and the tenacious veſtment of body, than as the poet ſays, "Nymphs weaving on ſtony beams purple garments wonderful to behold?" For the fleſh is generated in and about the bones, which in the bodies of animals may be compared to ſtones. On which account theſe textorial inſtruments, are fabricated from ſtones alone. But the purple garments plainly appear to be the fleſh with which we are inveſted; and which is woven as it were and grows by the connecting and vivifying power of the blood, diffuſed through every part. Beſides, purple garments are tinged with the blood of animals; and fleſh is produced and ſubſiſts from blood. Add too that the body is a garment with which the ſoul is inveſted; a circumſtance indeed wonderful to the ſight, whether we regard its compoſition, or conſider the connecting band by which it is knit to the ſoul. Thus according to Orpheus, Proſerpine who preſides over every thing generated from ſeed, is repreſented weaving a web; and the ancients called heaven by the name of πεπλος, which is as it were the veil or tegument of the celeſtial gods. But why are the amphora repreſented filled with honey-combs, and not with water? For in theſe as he ſays the bees depoſit their honey. But the word τιθαιδωσσειν, ſignifies nothing more than τιθεναι τῃ βοσιν, i. e. to depoſit aliment. And honey is the nutriment of bees.

Indeed, theologiſts have made honey ſubſervient to many and various ſymbols, becauſe it is indued with a variety of powers: for it poſſeſſes a purging and preſerving quality. Hence bodies are kept from putrefaction by its uſe, and ulcers of long ſtanding are purified: beſides it is ſweet to the taſte, and bees produced from putrid oxen, collect it by a wonderful art from flowers. On this account when in the ſacred rites called λουτρα, thoſe who are initiated, pour honey inſtead of water on their hands, it is ſignified by this practice, that their hands ſhould be pure from every ſorrowful, noxious, and abominable concern. Thus, others purify the initiated by a purgatorial rite from fire, but are averſe from water as the enemy of fire. Beſides they purify the tongue from all the defilement of evil with honey. But when the Perſians offer honey to the guardian of fruits, they regard its preſerving power as a ſymbol of its ſimilitude to a divine nature. In like manner when the poet pours nectar and ambroſia into the noſtrils of the ſlain, for the purpoſe of preſerving the body from putrefaction, ſome have interpreted honey as the aliment of the gods. For Homer in a certain place calls nectar yellow; which is alſo the colour of honey. But whether or not honey is to be taken for nectar, we ſhall hereafter more accurately examine. Again, we find in Orpheus that Jupiter employs ſtratagems againſt Saturn from honey. For Saturn full of honey is intoxicated, his ſenſes are darkened as if from the effects of wine, and ſhe ſleeps: juſt as Porus, according to Plato, is diſtended with nectar; for wine (ſays he) was not yet known. But night admoniſhes Jupiter to employ the ſtratagem of honey, according to Orpheus, in theſe words,

As

" As ſoon as you behold him ſpread under the lofty oaks, intoxicated with the ſweet honey, produced by the bees, bind him in chains."

Saturn, therefore, intoxicated with honey is bound by Jupiter; and caſtrated in the ſame manner as Cælum. But the theological poet intimates by this fable that the divine eſſences are, as it were, bound, and drawn down by delight into the fluctuating empire of generation; and that when reſolved in pleaſure, they produce certain powers by their ſeminal virtue. Thus Saturn caſtrates Cælum, who, by his deſire of coition deſcends to earth. But the intoxication of honey, ſignifies among theologiſts nothing more than the deſire of coition; by the enſnaring power of which Saturn is caſtrated. For Saturn and his orb is the firſt of the celeſtial ſpheres, which moves contrary to the courſe of Cælum or the heavens. But certain virtues deſcend as well from the heavens as from the wandering ſtars, and the influences of the heavens are received by Saturn, and thoſe of Saturn by Jupiter. Hence, ſince honey is aſſumed in purgations, and as an antidote to putrefaction, and aptly repreſents the pleaſure and delight of deſcending into the faſcinating realms of generation, it is accounted a ſymbol well adapted to nymphs the divinities of waters; ſignifying the nature of the waters over which they preſide free from putrefaction: intimating likewiſe the purgative quality of the waters and their co-operating in the buſineſs of generation. For water promotes generation. The poet, therefore, very properly repreſents the bees as depoſiting their honey in bowls and urns: ſince bowls ſignify fountains; and on this account a bowl or cup is placed next to Mythras inſtead of a fountain. But we draw the waters of fountains in Amphora; and fountains and rivers are proper to aquatic nymphs, and eſpecially to the nymphs called by the ancients ſouls, which antiquity likewiſe peculiarly denominated μελισσας, i. e. artificers of ſweetneſs or bees: for ſouls are, indeed, the authors of all the pleaſure peculiar to our nature.

Hence Sophocles does not ſpeak improperly, when he ſays,

" The ſwarm of the dead utters a buzzing noiſe."

But the prieſteſſes of Ceres, as miniſters to the terrene goddeſs were formerly called bees; and her daughter Proſerpine μελιτωδη, or delicious, alluding to the ſweetneſs of honey. Beſides the moon who is the queen of generation was denominated by the ancients a bee, and likewiſe a bull: for the exaltation of the Moon is Taurus, and bees are generated from oxen; on which account they are called βουγενεις, which name is likewiſe attributed to ſouls proceeding into generation. Alſo the god Mercury is eſteemed a ſtealer of oxen, who is ſecretly conſcious of generation. Beſides honey is conſidered as a ſymbol of death, in the ſame manner as gall is of life; whether they indicated by ſuch ſimilitudes that the life of the ſoul dies by the noxious embraces of pleaſure, but enjoys life from bitterneſs, which by its diſguſtful ſenſation prevents the ſoul from ſinking into that drowſy oblivion produced by corporeal delight (on which account they ſacrificed gall to the gods); or whether the ſymbol originated from conſidering that death is the end of evils, but that the preſent life is laborious and bitter. But it is here neceſſary

to

to obſerve that they did not promiſcuouſly call all ſouls deſcending into the whirl of generation bees; but only thoſe who, while reſiding in this fluctuating region, acted juſtly; and who, after being in a manner acceptable to the divinities returned to their priſtine felicity. For the bee is an animal, accuſtomed to return to its former place; and is ſtudious of juſtice and ſobriety, on which account libations with honey are called μείλικα, or ſober. The ancients likewiſe refrained from ſitting on beans, which they conſidered as a ſymbol of generation proceeding in a regular ſeries without being intercepted; becauſe this leguminous vegetable is almoſt the only one, amongſt other fruits, whoſe ſtalk is perforated throughout without any intervening knots. We muſt, therefore, admit that honey-combs and bees are ſymbols, as well peculiar as common to nymphs the divinities of waters; and at the ſame time to ſouls wedded to the humid and fluctuating nature of generation.

But let us now return to the cave and conſider its double entrance. The moſt ancient of mankind then, before temples were raiſed to divinity, conſecrated caves and dens to the gods. Hence the Curetes in Crete dedicated a cave to Jupiter; in Arcadia a cave was ſacred to the Moon, in Lyceum to Pan, and in the iſland Naxus to Bacchus. The worſhip of Mithras too, wherever this god was known was performed in caves. But with reſpect to this cave of the nymphs in Ithaca, Homer was not alone content with ſaying that it had two gates, but he adds that the one looks to the north, and the other, more divine, to the ſouth; concerning which he does not mention whether it its pervious to the deſcent of either immortals or mankind, as is the caſe with the northern entrance, but he only ſays,

"The other of theſe tends to the ſouth, which is not pervious to men, but is alone open to immortals"

It remains, therefore, to inveſtigate either the ſecret meaning of thoſe who firſt inſtituted this cave, according to the poets deſcription; or what occult ſignification Homer himſelf intended to convey, if it is nothing more than a fiction of his own inventing. Since then, the preſent cave in an eminent degree is a ſymbol and image of the world, as Numenius and his familiar Cronius affirm, it is neceſſary, in order to elucidate the reaſon of the poſition of the gates, to obſerve that there are two extremities in the heavens; viz. the winter-ſolſtice, than which no part of heaven is nearer to the ſouth; and the ſummer-ſolſtice which is ſituated next to the north. But the ſummer tropic, that is, the ſolſtitial circle is in Cancer, and the winter tropic in Capricorn. And ſince Cancer is the neareſt to the earth, it is deſervedly attributed to the moon, which is itſelf proximate to the earth. But ſince the ſouthern pole by its great diſtance is inconſpicuous to us, Capricorn is aſcribed to Saturn, who is the higheſt and moſt remote of all the planets. Again, the ſigns from Cancer to Capricorn are ſituated in the following order; the firſt is Leo called by aſtrologers the houſe of the ſun; afterwards Virgo, or the houſe of Mercury; Libra of Venus; Scorpius of Mars; Sagittarius of Jupiter; and

and Capricornus or the houſe of Saturn. But from Capricorn in an inverſe order, Sagittarius is attributed to Saturn; Piſces to Jupiter; Aries to Mars; Taurus to Venus; Gemini to Mercury; and laſt of all Cancer to the Moon. From among the number of theſe theologiſts conſider Cancer and Capricorn as two ports; Plato calls them two gates. Of theſe, they affirm that Cancer is the gate through which ſouls deſcend, but Capricorn that through which they aſcend, and exchange a material for a divine condition of being *. Cancer is, indeed, northern and adapted

* Macrobius in the 12th chapter of his comment on Scipio's dream, has derived ſome of the ancient arcana which it contains, from the preſent part of this admirable work. What he has farther added, I ſhall tranſlate on account of its excellence, and connection with the above paſſage of Porphyry. "Pythagoras (ſays he) thought that the empire of Pluto, began downwards from the milky way, becauſe ſouls falling from thence, appear already to have receded from the gods. Hence he aſſerts, that the nutriment of milk is firſt offered to infants, becauſe their firſt motion commences from the galaxy, when they begin to fall into terrene bodies. On this account, ſince thoſe who are about to deſcend, are yet in *Cancer*, and have not left the milky way, they rank in the order of gods. But when by falling they arrive at the *Lion*; in this conſtellation, they enter on the exordium of their future condition. And, becauſe in the *Lion*, the rudiments of birth, and certain primary exerciſes of human nature commence; but *Aquarius* is oppoſite to the lion, and preſently ſets, after the lion riſes: hence, when the ſun is in Aquarius, funeral rites are performed to departed ſouls; becauſe he is then carried in a ſign, which is contrary, or adverſe to human life. From the confine, therefore, in which the zodiac, and galaxy touch each other, the ſoul deſcending from a round figure, which is the only divine form, is produced into a cone by its defluxion. And as a line is generated from a point, and proceeds into length, from an indiviſible; ſo the ſoul from its own point; which is a monad, paſſes into the duad, which is the firſt protraction. And this is the eſſence which Plato in the Timæus, calls indiviſible, and at the ſame time diviſible, when he ſpeaks of the fabric of the mundane ſoul. For as the ſoul of the world, ſo likewiſe that of man will be found in one reſpect ignorant of diviſion, if the ſimplicity of a divine nature is conſidered; and in another reſpect capacious of diviſion, if we regard the diffuſion of the former through the world, and of the latter through the members of the body.

As ſoon, therefore, as the ſoul gravitates towards body, in this firſt production of herſelf, ſhe begins to experience a material tumult, that is, matter flowing into her eſſence. And this is what Plato remarks in the Phædo, that the ſoul is drawn into body, ſtaggering with recent intoxication; ſignifying by this the new drink of matter's impetuous flood, through which the ſoul becoming defiled and heavy, is drawn into a terrene ſituation. But the ſtarry *cup*, placed between Cancer and the Lion, is a ſymbol of this myſtic truth, ſignifying that deſcending ſouls firſt experience intoxication in that part of the heavens, through the influx of matter. Hence, oblivion the companion of intoxication, there begins ſilently to creep into the receſſes of the ſoul. For if ſouls retained in their deſcent to bodies, the memory of divine concerns of which they were conſcious in the heavens, there would be no diſſenſion among men, concerning divinity. But all, indeed, in deſcending drink of oblivion; though ſome more, and others leſs. On this account, though truth is not apparent to all men on the earth, yet all exerciſe their opinions about it: becauſe *a defect of memory, is the origin of opinion*. But thoſe diſcover moſt, who have drank leaſt of oblivion: becauſe they eaſily remember what they had known before in the heavens. Hence, that which is called *lectio* by the Latins, is called by the Greeks ἀναμνησις, or *repeated knowledge*; becauſe when we learn any truths, we recognize what we naturally knew, before material influxion, ruſhing into the body, had intoxicated the ſoul. But it is this *hyle* or matter which compoſes all that body of the world, which we every where perceive adorned with the impreſſions of forms. Its higheſt and pureſt part, however, by which divine natures, are either ſuſtained, or compoſed, is called *nectar*, and is believed to be the drink of the gods: but its more inferior and turbid part, is the drink of ſouls. And this is what the ancients have denominated the river of Lethe. But according to the Orphic writers the νοῦς ὑλικὸς, or *material intellect*, is Bacchus, who proceeding from that indiviſible part, is divided into particulars. Hence, in the Orphic myſteries, he is reported to have been torn in pieces, by Titanic fury, and the fragments being buried, are ſaid to have riſen entire, and collected.

adapted to deſcent: but Capricorn, is ſouthern, and accommodated to aſcent. And, indeed, the gates of the cave which look to the north, are with great propriety ſaid to be pervious to the deſcent of men: but the ſouthern gates, are not the avenues of the gods, but of ſouls aſcending to the gods. On this account the poet does not ſay it is the paſſage of the gods, but of immortals; which appellation is alſo common to our ſouls, whether in their whole eſſence or from ſome particular and moſt excellent part only, they are denominated immortal. It is reported that Parmenides mentions theſe two ports in his book, concerning the nature of things: as likewiſe that they were not unknown to the Egyptians and Romans. For the Romans celebrate their Saturnalia when the ſun is in Capricorn, and during this feſtivity the ſervants wear the ſhoes of thoſe who are free, and all things are diſtributed among them in common; the legiſlator intimating by this ceremony, that thoſe who are ſervants at preſent, by the condition of their birth, will be hereafter liberated by the Saturnalian feaſt, and by the houſe attributed to Saturn, i. e. Capricorn; when reviving in that ſign, and being diveſted of the material garments of generation, they return to their priſtine felicity, and to the fountain of life. But ſince the path beginning from Capricorn is retrograde, and pertains to deſcent; hence the origin of the word Januarius or January from Janua a gate, which is the ſpace of time meaſured by the ſun while returning from Capricorn towards the eaſt, he directs his courſe to the northern parts. But with the Egyptians the beginning of the year is not Aquarius, as among the Romans, but Cancer. For the

collected into one; becauſe intellect by paſſing into a diviſible from an indiviſible nature, and again returning from diviſible to indiviſible, both accompliſhes the duties of the world, and does not deſert the arcana of its own nature.

The ſoul, therefore, falling with this firſt weight, from the zodiac, and milky-way into each of the ſubject ſpheres, is not only clothed with the acceſſion of a luminous body, but produces the particular motions, which it is to exerciſe in the reſpective orbs. Thus in Saturn, it energiſes according to a ratiocinative and intellective power, which they call λογιστικὸν and θεωρητικὸν: in the ſphere of Jove, according to the power of acting, which is called πρακτικὸν: in that of Mars, according to the ardour of courage, which is denominated θυμικὸν: in the orb of the ſun, according to a ſenſitive and phantaſtic nature, which they call αἰσθητικὸν and φανταστικὸν: but according to the motion of deſire, which is denominated ἐπιθυμητικὸν, in the planet Venus: of pronouncing and interpreting what it perceives, which is called ἑρμηνευτικὸν, in the orb of Mercury; and according to a plantal nature, and a power of acting on body, which is denominated φυτικὸν, when it enters the lunar globe. And this ſphere, as it is the laſt among the divine orders, ſo it is the firſt in our terrene ſituation. For this body, as it is the dregs of divine concerns; ſo it is the firſt ſubſtance of an animal. And this is the difference between terrene and ſupernal bodies (under which laſt, I comprehend the heavens, the ſtars, and the other elements) that the latter are called upwards to be the ſeat of the ſoul, and merit immortality from the very nature of the region, and an imitation of ſublimity; but the ſoul is drawn down to theſe terrene bodies, and is on this account reported to die, when it is incloſed in this fallen region, and the ſeat of mortality. Nor ought it to cauſe any diſturbance, that we have ſo often named the death of the ſoul, which we have pronounced to be immortal. For the ſoul is not extinguiſhed by its own proper death, but is only overwhelmed for a time. Nor does it loſe the benefit of perpetuity, by its temporal demerſion: ſince when it deſerves to be purified from the contagion of vice, through its entire refinement from body; it will be reſtored to the light of perennial life, and will return to its priſtine integrity and perfection."

ſtar,

ſtar, ſo this borders on Cancer, which ſtar the Greeks denominate Κυων, or the Dog. When this ſtar riſes they celebrate the calends of the month, which begins their year; becauſe this is the place of the heavens where generation commences, by which the world ſubſiſts. On this account the doors of the Homeric cavern, are not dedicated to to the eaſt and weſt, nor to the equinoctial ſigns, Aries and Libra, but to the north and ſouth, and particularly to thoſe ports or celeſtial ſigns which are the neareſt of all to theſe quarters of the world: and this becauſe the preſent cave is ſacred to ſouls, and to nymphs the divinities of waters. But theſe places are particularly adapted either to ſouls deſcending into generation, or to ſuch as are ſeparating from it. On this account they aſſigned a place congruous to Mithras, near the equinoctial; and hence he bears the ſword of Aries, becauſe this animal is martial, and is the ſign of Mars: he is likewiſe carried in the Bull the ſign of Venus; becauſe the Bull as well as Venus is the ruler of generation. But Mithras is placed near the equinoctial circle, comprehending the northern parts on his right, and the ſouthern on his left hand. Likewiſe to the ſouthern hemiſphere they added the ſouth, becauſe it is hot, and to the northern hemiſphere, the north, on account of the coldneſs of the wind in that quarter. Again, it was not without reaſon that they connected winds with ſouls ſinking to generation, and again ſeparating themſelves from its ſtormy whirl: becauſe, according to the opinion of ſome, ſouls attract a ſpirit, and obtain a pneumatic ſubſtance. Indeed, Boreas is proper to ſouls paſſing into generation: for the northern blaſts recreate thoſe who are on the verge of death; and refreſh the ſoul reluctantly detained in the body. On the contrary, the ſouthern gales diſſolve life. For the north, from its ſuperior coldneſs, collects into one, detains and ſtrengthens the ſoul in the moiſt and frigid embraces of terrene generation: but the ſouth diſſolves the humid bands, and, by its ſuperior heat, having freed the ſoul from the dark and cold tenement of the body, draws it upward to the incorporeal light and heat of divinity. But ſince our habitable orb verges moſtly to the north, it is proper that ſouls born in this turbulent region ſhould be converſant with the north wind; and thoſe who depart from hence with the ſouth. It is, indeed, on this account that wind blowing from the north, is immediately on its commencement vehement; but the ſouth, on the contrary, is more vehement towards the end. For the former hangs directly over the inhabitants of the north pole, but the latter is more diſtant, and the blaſt from places very remote, is more tardy than from ſuch as are near; but when it is gradually collected it blows abundantly and with vigour. Hence, becauſe ſouls enter into generation, through the northern gate, they have feigned this wind to be amatorial; and hence the poet:

* "Boreas changed into the form of a horſe mingled himſelf with the mares of Erichthonius; and they big with young produced twice ſix foal." And they report that he committed a rape on Orithyia, from whom he begot Zetis and Calais. But attri-

* Illiad. lib. xx. l. 223, &c.

buting the ſouth to the gods, when the ſun is at his meridian, they draw the curtains before the ſtatues of the Gods in temples; and conceal them from the view, obſerving the Homeric precept, that it is not lawful for men to enter temples when the ſun is inclined to the ſouth: "for this path is open to immortals alone."

† Hence when the god is at his meridian they place a ſymbol of mid-day and of the ſouth in the gate of the temple. Beſides, in other gates it was eſteemed unlawful to ſpeak at all times; becauſe they conſidered gates as ſacred. On this account too the Pythagoreans, and wiſe men among the Egyptians, forbade any perſon to ſpeak while paſſing through gates or portals; for at that time the divinity who is the principle of the univerſe is to be worſhipped in ſilence. But Homer was not ignorant that gates are ſacred, becauſe he repreſents Oeneus in the place of ſupplication knocking at the gate.

> Before his gates the aged Oeneus came,
> And ſuppliant ſhook their well-compacted frame ‡.

Beſides he knew that the gates of heaven were committed to the care of the hours, commencing in cloudy places; and which are opened and ſhut by the clouds: for he ſays,

> "Whether they unfold, or cloſe a denſe cloud §."

Hence likewiſe they are ſaid to reſound becauſe thunders roar through the clouds.

> Heaven's gates ſpontaneous open to the powers,
> Heavens ſounding gates kept by the winged hours ‡‡.

Beſides Homer elſewhere makes mention of the gates of the ſun, ſignifying by theſe Cancer and Capricorn: for the ſun proceeds as far as theſe ſigns, when he deſcends from the north to the ſouth; and from thence aſcends again to the northern parts. But Capricorn and Cancer are ſituated about the milky circle, Cancer occupying the northern extremity of this circle, and Capricorn the ſouthern. Again, according to Pythagoras *the people of dreams* * are ſouls, which are reported to be collected in the milky way; the appellation

† In the original ἱσᾶσαν δὲ καὶ σύμβολον τῆς μεσημβρίας καὶ τῦ νότυ, ἐπὶ τῇ θύρᾳ μεσημβριαζονῖ☉ τῷ θεῷ. Which Holſtenius tranſlates moſt erroneouſly, as follows: "Auſtrum igitur meridei ſymbolum ſtatuunt: cum Deus meridiano tempore oſtio immineat."

‡ Iliad. lib. ix. l. 579. § Iliad. lib. viii. l. 395. ‡‡ Iliad. lib. viii. l. 393.

* This aſſertion of Pythagoras that *the people of dreams*, δῆμος ὀνείρων, are ſouls ſituated in the milky way, admirably contributes to elucidate the following paſſage in the 24th book of the Odyſſey, reſpecting the deſcent of the ſuitors ſouls to the region of ſpirits:

> Πὰρ δ' ἴσαν Ὠκεανοῦ τε ῥοὰς καὶ Λευκάδα πέτρην,
> Ἠδὲ παρ' ἠελίοιο πύλας καὶ δῆμον ὀνείρων
> Ἤισαν, αἶψα δ' ἵκοντο κατ' ἀσφοδελὸν λειμῶνα,
> Ἔνθά τε ναίυσι ψυχαὶ εἰδώλα καμόντων.

i. e. "But they paſſed beyond the flowing waters of the ocean, and the rock Leucas, and the gates of the ſun, and *the people of dreams*: and they immediately came into meadows of aſphodel, where ſouls the images of the dead

appellation of which is derived from ſouls, nouriſhed with milk after their lapſe into the whirls of generation. Hence thoſe who deſire to evocate departed ſouls, ſacrifice to

to them with milk ſweetned with honey: convinced that by the allurements of pleaſure, theſe ſouls would deſire to paſs into generation, with the very beginning of which milk is generally produced.

Beſides the ſouthern regions produce ſmall bodies, becauſe being attenuated by the heat they are diminiſhed and dried up: and by a contrary reaſon all bodies generated in the north are large, as is evident in the Celtæ or Gauls, Thracians, and Scythians; and theſe regions are humid and abound with much paſture. For the word Boreas is derived from the Greek βοῤῥᾶ, which ſignifies aliment. Hence alſo the wind which blows from a land abounding in nutriments is called βοῤῥᾶς or nutritive. From theſe cauſes therefore the northern parts are properly adapted to the claſs of ſouls obnoxious to mortality and generation; but the ſouthern quarter to immortals, exempt from the mutability inſeparable from the flowing realms of generation: in the ſame manner as the eaſt is attributed to the gods, and the weſt to dæmons. Hence ſince diverſity is the origin of nature, the ancients conſidered every thing with a double entrance, as the ſymbol of nature. For the progreſſion of things is either through an intelligible or a ſenſible nature. And if through a ſenſible nature, either through the ſphere of the

ing in his priſtine valour: why Achilles laments his ſituation in theſe abodes; and ſouls in general are engaged in purſuits, ſimilar to their employments on the earth: for all this is the natural conſequence of a propenſity to a mortal nature, and a deſertion of the regions every way lucid and divine. Let the reader too obſerve, that, according to the arcana of the Platonic doctrine, the firſt and trueſt ſeat of the ſoul, is in the intelligible world, where ſhe lives entirely diveſted of body, and enjoys the ultimate felicity of her nature. And this is what Homer divinely inſinuates when he ſays:

Τὸν δὲ μετ', εἰσενόησα βίην Ἡρακληείην,
Εἴδωλον· αὐτὸς δὲ μετ' ἀθανάτοισι θεοῖσι
Τέρπεται ἐν θαλίῃς, καὶ ἔχει καλλίσφυρον Ἥβην.—κ. τ. λ.

i. e. "after this I ſaw the Herculean power, or *image*: but Hercules himſelf is with the immortal gods, delighting in celeſtial banquets, and enjoying the beautiful-footed Hebe." Since for the ſoul to dwell with the gods entirely ſeparated from its vehicle, is to abide in the intelligible world, and to exerciſe, as Plotinus expreſſes it, the more ſacred conteſts of wiſdom.

Should it be enquired why departed ſouls, though in a ſtate of felicity are compared by Homer to *dreams* and ſhadows, I anſwer with Porphyry (apud Stob. p. 132.) that they are ſhadows with reſpect to human concerns, both becauſe they are deſtitute of body, and are void of memory: for after they have paſſed the Stygian river, they are entirely ignorant of their priſtine life on the earth, though they recognize, and converſe with each other, as is evident from the diſcourſes between Patroclus, Ajax, and Antilochus. Indeed together with memory, they loſe all knowledge of corporeal reſemblances, which are rendered apparent through the miniſtry of the phantaſy. For ſince the phantaſy conſiſts from memory, as Plato aſſerts in the Phelebus; whatever we imagine periſhes with the memory; and when this is taken away all the perturbations of the ſoul are removed, as ſhe then becomes wholly intellectual, and paſſes into a ſtate divinely prudent and wiſe. However, by means of the blood, which, as we have before obſerved, is, according to Homer, the inſtrument of the phantaſtic ſoul, departed ſpirits recognize material forms, and recollect their priſtine condition on the earth. And to the phantaſy reaſoning pertains; ſince it is nothing more than an aggregation of memory, collected through imaginations, into the judgment of univerſals. But this is very different from the *intellective energy*, acquired by the ſoul beyond Acheron, which Cocytus and Pyriphlegethon fill, from the whirling ſtreams of the dreadful Styx. Let the reader, however, remember that the phantaſy is twofold, communicating in its ſupreme part with the rational ſoul, and in its inferior part with ſenſe; and that it is this inferior part which the ſoul deſerts, when it acquires an intellectual condition of being.

fixed.

fixed ſtars, or through the orbs of the planets; and again either with an immortal or a mortal motion. Likewiſe one centre or hinge of the world is above the earth, but the other is ſubterranean; and one part of the heavens is eaſtern, and another weſtern. In like manner ſome parts of the world have a dexter, and others a ſiniſter poſition. Thus too night is oppoſed to day; and the harmony of the univerſe conſiſts from the amicable junction of contrary and not ſimilar natures. Plato alſo makes mention of two gates, one of which affords a paſſage to thoſe aſcending into the heavens, the other to thoſe deſcending on the earth: and theologiſts place the ſun and moon as the gates of ſouls, which aſcend through the ſun and deſcend through the moon. So, according to Homer,

> "Two urns by Jove's high throne have ever ſtood,
> The ſource of evil one, and one of good *."

But Plato, in his Gorgias, by vaſes underſtands ſouls, ſome of which are beneficent, and others malignant, and again ſome are rational and others irrational. But ſouls are denominated vaſes becauſe they are capacious of certain energies and habits, after the manner of veſſels. In Heſiod too we find one vaſe ſhut, but the other opened by pleaſure, who diffuſes its contents, and leaves nothing but hope behind. For in whatever concerns a depraved ſoul diffuſed about the dark and turbulent nature of matter, deſerts the proper order of its eſſence; in all theſe, it is accuſtomed to nouriſh itſelf with the pleaſing though deluſive proſpects of hope.

Since then every twofold diviſion is a ſymbol of nature, this Homeric cavern has with great propriety two gates, numerically different; the one peculiar to gods and pure ſouls; but the other to ſuch as are mortal and depraved. Hence Plato took occaſion to ſpeak of bowls, and to ſubſtitute vaſes for Amphora, and two gates, as we have already obſerved, in the place of two ports. Alſo Pherecydes Syrus, mentions receſſes, and dens, caves, gates, and ports, by which he inſinuates the generation of ſouls, and their ſeparation from a material nature. And thus much for an interpretation of Homer's cave, which we appear to have ſufficiently explained, without adducing any farther teſtimonies from ancient philoſophers and theologiſts, which would give an unreaſonable extent to our diſcourſe.

One particular however remains to be explained, and that is the ſymbol of the olive at the top of the cavern; ſince Homer appears to inſinuate ſomething egregious by giving ſuch a poſition: for he does not merely ſay that an olive grows in this place, but that it flouriſhes at the head or vertex of the cave.

> "High at the head a branching olive grows,
> Beneath a gloomy grotto's cool receſs, &c."

But the growth of the olive in ſuch a ſituation is not fortuitous as ſome may ſuſpect, ſince it finiſhes and contains the ænigma of the cave. For as the world was not produced by the blind concurrence of chance, but is the work of divine wiſdom and an intellec-

* Iliad xxiv. l. 527.

tual

tual nature, hence an olive the ſymbol of divine wiſdom, flouriſhes near the preſent cavern, which is an emblem of the material world. For the olive is the plant of Minerva, and Minerva is wiſdom. And ſince this goddeſs was produced from the head of Jupiter, the theological poet gives a proper poſition to the olive, conſecrated at the head of the port: ſignifying by this ſymbol that the univerſe is the offspring of an intelligible nature, ſeparated indeed by a diverſity of eſſence, though not by diſtance of place from his work; and by unremitting and ever preſent energies, not remote from any part of the univerſe, but ſituated as it were on its very ſummit, that is governing the whole with perfect wiſdom from the dignity and excellence of his nature. But ſince an olive always flouriſhes, it bears a ſimilitude peculiar and convenient to the revolutions of ſouls in this material region. For in ſummer the white part of the leaves is upwards, but in winter it is bent downwards. On this account alſo in prayers and ſupplications they extend the branches of an olive, preſaging from this omen that they ſhall exchange the ſorrowful darkneſs of danger for the fair light of ſecurity and peace. But the olive is not only of an ever-flouriſhing nature, it likewiſe bears fruit, which is the reward of labour, is ſacred to Minerva, ſupplies the victors in athletic labours with crowns, and affords a friendly branch to the ſuppliant petitioner. Thus too the world is governed by an intellectual nature, and a wiſdom ever flouriſhing and vigilant, who alſo beſtows on the conquerors in the athletic race of life, the crown of victory, as the reward of ſevere toil, and patient perſeverance: and the mighty builder who ſupports the univerſe by his divine energies, invigorates miſerable and ſuppliant ſouls, contending for the moſt glorious of all prizes, the olympiad of the ſoul.

In this cave therefore, ſays Homer, all external poſſeſſions muſt be depoſited; here, naked and aſſuming a ſuppliant habit, afflicted in body, and caſting aſide every thing ſuperfluous, ſenſe too being averſe from needleſs poſſeſſions, it is requiſite to ſit at the foot of the olive, and conſult with Minerva, by what means we may moſt effectually amputate and deſtroy that hoſtile rout of paſſions, which lurk in the ſecret receſſes of the ſoul. Indeed as it appears to me it was not without foundation that Numenius thought the perſon of Ulyſſes in the Odyſſey repreſented to us a man who paſſes in a regular manner over the dark and ſtormy ſea of generation *; and thus at length arrives at that region, where tempeſts and ſeas are unknown, and finds a nation

"Who ne'er knew ſalt, or heard the billows roar."

Again, according to Plato, the deep, the ſea, and a tempeſt are ſo many ſymbols of the conſtitution

* This was no doubt fully proved by Porphyry, in ſome of his unfortunately loſt writings; ſuch as his book *on the philoſophy of Homer*; or that, *on the Allegories of the Grecian and Egyptian Theology*, of which we have already made mention. However, it does not ſeem impoſſible, from the hints afforded us in this excellent treatiſe, for a perſon converſant in the Platonic philoſophy, to evince the truth of this aſſertion. Preſuming, therefore, that an attempt of this kind will be acceptable to the liberal reader, though my abilities are far inferior to thoſe of Porphyry; I ſhall requeſt his attention to the contents, and his pardon for the length of the enſuing diſcourſe. I only premiſe, that I ſhall make uſe of a ſmall treatiſe in Greek, on the wanderings of Ulyſſes, by an anonymous author, where he appears to have penetrated the ſenſe of the allegory; and freely reject his interpretation

[illegible] in this account. I think, one must admit that part by the name of the Muses and Phœbus."

"But

[illegible] which I might now be making mention of Pythia, have moreover, according to Homer as well

The first argument however whereby Proclus [illegible] that Apollo was [illegible] is that which he [illegible] from the [illegible] which [illegible] Homer, in the [illegible] words of Mr. Pope

> The rosy morning heard all their just praises,
> Leave the wide [illegible] main,
> Throw off their [illegible] which veils the skies,
> Invite the [illegible] to the [illegible] toils,
> Yoke their [illegible] and [illegible] the [illegible]
> Run [illegible] and [illegible] and [illegible]
> The [illegible] we see [illegible] of [illegible]
> With [illegible] and [illegible] and [illegible]
> The [illegible] main [illegible] the [illegible]
> [illegible] the [illegible] [illegible] [illegible]

Here we see [illegible] to different [illegible] and [illegible] by [illegible] to [illegible] the [illegible] of [illegible] to be [illegible] [illegible] [illegible] and [illegible] [illegible] [illegible]

" But it is the port of the ancient marine Phorcys †".

Likewiſe his daughter Thooſa, is mentioned in the beginning of the Odyſſey. But from Thooſa the Cyclops was born, whom Ulyſſes deprived of ſight that he might by this

niſhments till it returns to its true country and priſtine felicity. And this I may probably demonſtrate in ſome future period, by publiſhing a tranſlation of this admirable fable, and a comment on the divine myſteries it contains. We muſt here, however, obſerve, that as the advancements of Ulyſſes in virtue are but moderate, till he leaves Calypſo; ſo the greateſt of his troubles commence after that period, as our diſcourſe will ſhortly evince.

In the next fable, which is that of Æolus, a being, as the name implies, various and verſatile, though hoſpitable and benignant, we ſee Ulyſſes ſorrowful and wandering, through the anger of his natal dæmon, enquiring after a refuge from misfortune; though not as becomes one ſtudious of piety, but commiting himſelf to enchanters and magicians, and relying on their incantations for his deliverance from danger. He cannot, however, accompliſh his end, by ſuch undertakings, but remains fruſtrated of his hope, and filled with ſhame for his diſappointment. The Poet too, by attributing the ill ſucceſs of Ulyſſes to his ſleep, egregiouſly inſinuates that the rational ſoul was in a dormant ſtate, when he confided in practices ſo incapable of producing the deſired end, and ſo inconſiſtent with the goods which intellect confers. Such methods, indeed, as they increaſe the deſire of ſucceſs, ſo they preſent ſtrongly to our view, the diſtant object of our purſuit; but this is immediately ſucceeded by the ſleep of reaſon, and the deſtruction of hope. And this is what Homer, appears to ſignify, by the following verſes:

Nine proſp'rous days, we ply'd the lab'ring oar;
The tenth preſents our welcome native ſhore:
The hills diſplay the beacon's friendly light,
And riſing mountains gain upon our ſight.
Then firſt my eyes by watchful toils oppreſt,
Comply'd to take the balmy gifts of reſt;
Then firſt my hands did from the rudder part,
(So much the love of home poſſeſs'd my heart.) Lib. x. l. 28. &c.

And hence;

——— ——— ——— the thongs unbound,
The guſhing tempeſt ſweeps the ocean round;
Snatch'd in the whirl, the hurried navy flew,
The ocean widen'd, and the ſhores withdrew.

After this ſucceeds the adventure of the Leſtrigons which ſeems to indicate the yet imperfect condition of Ulyſſes' nature, unable to diſtinguiſh the coaſt of virtue, from the infamous regions of vice. Hence he becomes an involuntary prey to the depredations of depraved manners; and is for ſome time incapable of exerting the power of reaſon. However, at length perceiving the magnitude of the evils with which he is ſurrounded, he cuts the detaining cables of vice, and flies from his dangerous ſituation; deploring, indeed the ruined ſtate of his better manners, but rejoicing that his principal part has eſcaped, and that he is not totally deſtroyed. And this the poet appears to me to inſinuate by the following verſes:

Whilſt thus their fury rages at the bay,
My ſword our cables cut, I call'd to weigh;
And charg'd my men, as they from fate would fly
Each nerve to ſtrain, each bending oar to ply.
The ſailors catch the word, their oars they ſeize,
And ſweep with equal ſtrokes the ſmoky ſeas;
Clear of the rocks th' impatient veſſel flies;
Whilſt in the port each wretch encumber'd dies.

With

† Φόρκυνος δέ τις ἐστὶ λιμὴν ἁλίοιο γέροντος.

this means while ſailing over the ſtormy ocean be reminded of his ſins, till he was ſafely landed in his native country. On this account too, a ſeat under the olive is proper

> With earneſt haſte my frighted ſailors preſs,
> While kindling tranſports glow'd at our ſucceſs;
> But the ſad fate that did our friends deſtroy
> Cool'd every breaſt, and damp'd the riſing joy. Lib. x. l. 125, &c.

In the next fable, which is the beautiful allegory of Circe, we ſhall find ſome deep arcana of philoſophy contained, excluſive of its connection with Ulyſſes. By the Æean iſland then, in which the palace of Circe was ſituated, we muſt conceive the region of ſorrow and lamentation; for this word is evidently derived from the interjection αἰ, *alas!* and the adjective αἰνὸς, *lamentable.* And by Circe we muſt underſtand the goddeſs of ſenſe: for thus Porphyry in Stobæus p. 141. Ὅμηρος δὲ τὴν αὐτὴν περίοδον ἢ περιφορὰν παλιγγενεσίας, Κίρκην προσαγορεύει, ἡλίου παῖδα, τὴν πᾶσαν φθορὰν γενέσει, ἢ γένεσιν αὖ πάλιν φθορᾷ συναπτόντος ἀεὶ καὶ συνειρούσης. i. e. "Homer calls Circe, the daughter of the ſun, the period and revolution of regeneration in a circle, who ever connects and combines all corruption with generation, and generation again with corruption." Hence, we may obſerve that the Æean iſle, or this region of ſenſe, is with great propriety called the abode of trouble and lamentation. In this region then, the companions of Ulyſſes, that is, the thoughts and natural powers of his ſoul, are changed by the incantations of the goddeſs; and his opinions and natural motions, raſhly wandering from the authority of ruling intellect, are converted through the allurements of delight, into an unworthy and irrational habit. Ulyſſes, however, or the rational ſoul, is by the aſſiſtance of Mercury, or reaſon, prevented from deſtruction. Hence, intellect rouſed by its impaſſive power, and recollecting the ills which its natural faculties endure; at the ſame time, being armed with prudent anger, and the plant moly, or virtue, which is able to repel the allurements of pleaſure, wars on the goddeſs of ſenſe, and prevents the effects of her faſcinating charms. Nor is reaſon alone free from the dire incantations of delight, but it likewiſe reſtores to their proper form the powers of nature, which had been previouſly corrupted; and thus departs a gainer by its loſs. For he who returns to himſelf from the dominion of vice, derives at leaſt this advantage in his return, that he becomes afterwards more prudent in reſiſting its incurſions, and employs his firſt defeat as an incitement to the acquiſition of virtue. It muſt here, however, be obſerved that Ulyſſes is an involuntary offender, in all his adventures poſterior to that of the Cyclops. His paſſions, indeed, hurry him into various vices and misfortunes, but his will by no means concurs with their endurance. But his connection with his natal dæmon was voluntary; and after his departure from hence, he muſt be conſidered as in a gradual courſe of purification, though his progreſs in virtue is but ſmall, till the latter part of his abode with Calypſo.

But Homer's account of Circe, excluſive of its relation to Ulyſſes, contains, according to Porphyry (in Stob. p. 141), an admirable explanation of the ſoul. "For thus, (ſays he) Homer ſpeaks:

> No more was ſeen the human form divine;
> Head, face, and members, briſtle into ſwine:
> Still curſt with ſenſe, there *minds* remain alone,
> And their own voice, affrights them when they groan. Lib. x. l. 239, &c.

This fable, therefore, is the enigma of the opinions of Pythagoras and Plato reſpecting the ſoul; ſignifying that it is of an incorruptible and eternal nature, but not void of paſſion and mutability; ſince by diſſolution and death, it is capable of being tranſmuted and changed, into other corporeal forms; and by its deſire of pleaſure it purſues a form adapted and allied to the condition of its life. And in this the aſſiſtance of learning and philoſophy is perceived, if the ſoul, mindful of what is honeſt, and diſdaining baſe and unlawful pleaſures, can govern and defend herſelf from being changed into a beaſt; and from embracing a brutal and impure body, which increaſes and nouriſhes a nature dull and irrational, together with deſire and anger, rather than reaſon. Indeed, the order and nature of this tranſmutation is predicated by the dæmon of Empedocles, when he ſays:

> Σαρκῶν ἀλλάγματι περιπέπλωται χιτῶνι.
> Καὶ μετ' ἀμφιέπουσα τὰς ψυχάς.

i. e. *folding round the external garment of fleſh, and afterwards inveſting ſouls with its covering.* But the Æean iſle;

per to Ulyſſes, as to one who ſupplicates divinity, and would pleaſe his natal dæmon with a ſuppliant branch. For indeed it will not be lawful for any one to depart from this

which receives the dead body is that part of the continent, into which ſouls firſt deſcending wander and lament, and are ignorant

——— ——— what coaſt before them lies
Or where the ſun ſhall ſet, or where ſhall riſe.

Indeed, ſince through the love of pleaſure, they deſire an aſſociation, and nouriſhment in the fleſh, and in conjunction with its nature, they again fall into the confuſed mixture of generation, truly mingling things eternal and mortal, prudence and paſſion, celeſtials, and terreſtrials; enſnared and faſcinated by pleaſures, again leading to the fluctuating realms of generation. And in this caſe, ſouls particularly require the greateſt felicity and prudence; leſt purſuing the moſt baſe concerns, and becoming bound to their parts and paſſions, they obtain an unhappy and brutal life. For that which is called the τριοδος, or triple path of Hades, is perceived in the *rational*, *iraſcible*, and *deſiderative* parts of the ſoul; each of which contains the principle of a life convenient to its nature. And theſe aſſertions are not to be reckoned the figments of fables and the inventions of poets, but are to beeſteemed as true and natural diſcourſes. For thoſe whoſe *deſires*, in their mutation and generation, obtain the principality, will be changed into aſſinine bodies, and an impure life, through the dominion of gluttony and luſt. But when the ſoul raging with weighty contentions, and odious cruelties, ſeeks a ſecond generation, it betakes itſelf full of recent ſeverity, into the nature of a wolf, or lion; acquiring a body of this kind as a defenſive organ, adapted to its ruling affection. Hence, it is requiſite that every one ſhould be pure with reſpect to death, as in the ſacred myſteries of initiation, by baniſhing every depraved affection, mitigating every deſire, and expelling envy and anger from all connection wih the body. And this is the true Mercury with his rod of gold, the clear indicator of honeſt conduct, who entirely prohibits and reſtrains the ſoul from the mixture of generation; or if ſhe ſhould drink the envenomed potion, preſerves her in a human life, as long as can poſſibly be effected."

After this follows the allegory, reſpecting the deſcent of Ulyſſes into the infernal regions, which, excluſive of its connection with Ulyſſes, contains likewiſe ſome of the greateſt arcana of the Grecian theology. As it reſpects Ulyſſes, it appears to me to inſinuate, his flying to the aſſiſtance of necromancy, in order to know the reſult of the ills with which he is ſurrounded, through the anger of his natal dæmon. Hence Tireſias is nothing more than a departed ſpirit evocated by magical art, for the purpoſe of diſcloſing the ſecrets of futurity, and informing Ulyſſes how he may return to the true empire of his mind. The ſucceſs, however, was not anſwerable to the certainty of the information: and perhaps Homer meant to intimate by this allegory, that the end of ſuch illicit practiſes is never correſpondent to the deſires by which they are undertaken. Hence he plainly indicates the inadneſs of ſuch a conduct, by the conſequences which may poſſibly attend its execution; and by the horror which forced Ulyſſes to haſten its concluſion: for thus Ulyſſes ſpeaks:

Curious to view the kings of ancient days,
The mighty dead that live in endleſs praiſe,
Reſolv'd I ſtand; and haply had ſurvey'd
The god-like Theſeus, and Perithous' ſhade;
But ſwarms of ſpectres roſe from deepeſt hell,
With bloodleſs viſage, and with hideous yell,
They ſcream, they ſhriek; ſad groans and diſmal ſounds
Stun my ſcar'd ears, and pierce hell's utmoſt bounds.
No more my heart the diſmal din ſuſtains,
And my cold blood hangs ſhiv'ring in my veins;
Leſt Gorgon riſing from th' infernal lakes,
With horrors arm'd, and curls of hiſſing ſnakes,
Should fix me ſtiffen'd at the monſtrous ſight,
A ſtony image, in eternal night! Lib. ii. l. 627. &c.

Indeed

this ſenſible life in a regular way and in the ſhorteſt time, who blinds and irritates his material dæmon; but he who dares to do this, will be purſued by the anger of the marine

Indeed by ſuch a conduct, he becomes impious, profane, and execrable; till he returns to that condition of mind, in which the judgement of reaſon, and the light of intellect emerges through the gloom of impiety and folly; and prudent cogitations dance round the liberated ſoul. For in this caſe it may be truly ſaid:

Here the gay morn reſides in radiant bow'rs,
Here keeps her revels with the dancing hours. Iliad. xii. l. 3. & 4.

With reſpect to the recondite wiſdom contained in the deſcription of the infernal regions, I ſhall only obſerve from Porphyry (ap. Stob. p. 131.) that the reaſon why departed ſpirits, are repreſented as poſſeſſing no knowledge of human concerns, till they inhale the vapour of blood, is becauſe according to Homer and many of his ſucceſſors, human intelligence or prudence conſiſts in blood. And this ſays Porphyry is confirmed by the teſtimony of moſt writers poſterior to Homer, who inform us that when the blood is inflamed by a fever or the bile, imprudence and fooliſhneſs is produced. But Empedocles conſidered the blood as an inſtrument of prudence, when he ſays:

Αἵματος ἰν πελάγεσι τετραμμένου ἀντιθώρηκτος,
Τῇ τε νόημα μάλιϛα κικλήσκεται ἀνθρώποισι.
Αἷμα γαρ ἀνθρώπους παρακαβδιόν ἐϛι νόημα.

The ſenſe of which is, "that the blood ſurrounding the heart is the ſeat of intelligence in men."

But we muſt now view Ulyſſes paſſing from ſenſe to imagination; in the courſe of which voyage, he is aſſailed by various temptations, of ſurpriſing power, and deſtructive effect. We ſhall perceive him victorious in ſome of theſe, and ſinking under others; but ſtruggling againſt the incurſions of all. Among the firſt of theſe is the enchanting melody of the Sirens,

Whoſe ſong is death, and makes deſtruction pleaſe.

By which the poet evidently ſignifies alluring and fraudulent pleaſures, which charm the ſoul in its paſſage from a ſenſible life, with flattering and melliſluous incantations. Theſe delights however will be vanquiſhed by him, who, imitating the example of Ulyſſes, cloſes, with divine reaſons and energies as with wax, the powers of the ſoul, and the organs of ſenſe; ſo that every paſſage being barred from acceſs, they may in vain warble the ſong of extacy, and expect to ruin the ſoul by the enchanting ſtrain. It will however be requiſite that beſides this, the corporeal aſſaults, ſhould be reſtrained by the bands of philoſophy, and rendered irreſiſtible by external machines: for thus like Ulyſſes, we ſhall employ the ſenſes, without yielding to their impetuous invaſions; and experience delight without reſigning the empire of reaſon to its faſcinating controul.

Ulyſſes having eſcaped the danger of the Syrens, paſſes on to the rocks of Scylla and Charybdis, of terrific appearance, and irreſiſtible force. By theſe two rocks, the poet ſeems to ſignify the affections compreſſing human life on both ſides; and which every one muſt experience, who proceeds like Ulyſſes in a regular manner to an intellectual ſtate of exiſtence. Some of theſe, which are converſant with the ſoul, are like Scylla, of a lofty malignity; fraudulent yet latent, and obſcure, as concealed in the penetralia of the mind. And ſuch is pride, and other depraved affections of the ſoul. In theſe receſſes, a dæmon, the prince of ſuch affections reſides, a dire and enraged dog, who partly expoſes his own malice, and partly hides it in impenetrable obſcurity. Hence he is capable of producing miſchief in a twofold reſpect: for he privately hurts by malignant ſtratagems, openly raviſhes the ſoul, on the lofty rock of haughtineſs, and rends it with the triple evil of deadly teeth, I mean revolt, hatred of humanity, and haughty arrogance. Indeed a dæmon of this kind will be perpetually vigilant, in endeavouring to deſtroy, at one time the whole, and at another time a part of the ſoul, ſtruggling like Ulyſſes againſt paſſion, and yielding reluctantly to its invaſions.

But the other affections which belong to the body, are indeed lofty, and evidently deſtructive, but far inferior to the others; ſince their baſeneſs is conſpicuous, and not concealed by oſtentation. A wild fig-tree, that is the will, is produced on the top of this rock; wild indeed, on account of its free nature, but ſweet in

rine and material gods, whom it is firſt requiſite to appeaſe, by ſacrifices, labours, and patient endurance; at one time by contending with perturbations, at another time by employing

fruition; and under which, often through the day, the impetuoſities of the boiling body, are accuſtomed to abſorb, and diſturb the man, agitating upwards and downwards inflamed deſire, ſo that mighty deſtruction both to ſoul and body, is produced by their mutual co ſent. But it is highly proper that a rock of this laſt kind, ſhould be anxiouſly avoided by one, who like Ulyſſes is labouring to return to his true country and friends. Hence if neceſſity requires he will rather expoſe himſelf to the other: for there the energy of cogitation, and of the ſouls ſimple motions, is alone neceſſary to be exerted; and it is eaſy to recover the priſtine habit of the ſoul. In ſhort the poet, ſeems to repreſent by this allegory of the two rocks, as well the dangers ſpontaneouſly ariſing from the ſoul, as thoſe which happen from the external maſs of matter; both of which muſt be ſuſtained, or one at leaſt by a neceſſary conſequence. For it is impoſſible that neither of them ſhould be experienced by any one, who is paſſing over the ſtormy ocean of a ſenſible life.

After this ſucceeds the allegory of the Trinacrean iſle, containing the herds ſacred to the god of day, which were violated by the companions of Ulyſſes; but not without deſtruction to the authors of this impiety, and the moſt dreadful danger to Ulyſſes. By the reſult of this fable, the poet evidently ſhews that puniſhment attends the ſacrilegious, and the perjured; and teaches us that we ſhould perpetually reverence divinity with the greateſt ſanctity of mind, and be cautious how we commit any thing in divine concerns contrary to piety of manners, and purity of thought. But Homer by attributing ſenſe to the fleſh and hides of the ſlain herds, manifeſtly evinces, that every baſe deed, univerſally proclaims the iniquity of its author: but that perjury and ſacrilege are attended with the moſt glaring indications of guilt, and the moſt horrid ſignatures of approaching vengeance, and inevitable ruin. We may here too obſerve that the will of Ulyſſes, was far from conſenting to this impious deed; and that though his paſſions prevailed at length over his reaſon, it was not till after frequent admonitions had been employed, and great diligence exerted to prevent its execution. This indeed is ſo eminently true, that his guilt was the conſequence of ſurprize, and not of premeditated deſign; which Homer appears to inſinuate, by relating that Ulyſſes was aſleep, when his aſſociates committed the offence.

In the next fable, we find Ulyſſes impelled, by the ſouthern wind, towards the rocks of Scylla and Charybdis; in the latter of which he found ſafety, by clinging on the fig-tree which grew on its ſummit, till ſhe refunded the maſt, on which he rode after the tempeſt. But the ſecret meaning of the allegory appears to me as follows: Ulyſſes who has not yet taken his leave of a ſenſible life, is driven by the warmth of paſſion, repreſented by the ſouthern gales, into the dire charybdis of inſane deſires, which frequently boiling over, and toſſing on high the ſtorms of depraved affections, plunges into ruin, the ſoul obnoxious to its waves. However he is far from ſhameful idleneſs, and careleſs ſecurity; but perceiving the danger to which he is expoſed, when the baſe ſtorms begin to ſwell, and the whirlpools of depravity roar, he ſeizes the helm of temperance, and binds himſelf faſt to the ſolid texture of his remaining virtue. The waves of deſire are indeed tempeſtuous in the extreme; but before he is forcibly merged by the rage of the affections, into the depths of depravity, he tenaciouſly adheres to his unconſenting will, ſeated as it were on the lofty ſummit of terrene deſire. For this like the wild fig-tree affords the beſt refuge to the ſoul ſtruggling with the billows of baſe perturbations. Hence he by this means recovers the integrity which he had loſt, and afterwards ſwims without danger over the waves of temptation; ever watchful and aſſiduous while he ſails through this impetuous river of the fleſh, and is expoſed to the ſtormy blaſts of heated paſſion and deſtructive vice. Hence too while he is thus affected, and anxious leſt the loſs from unworthy affections ſhould return upon himſelf, he will eſcape being lacerated by the teeth of arrogance, though ſhe ſhould terribly and fiercely bark in the neighbourhood of deſire, and endeavour like Scylla, to ſnatch him on her lofty rock. For thoſe who are involuntarily diſturbed like Ulyſſes by the billows of deſire, ſuffer no inconvenience from the depraved rock of pride: but conſidering the danger of their preſent ſituation, they relinquiſh confident conceit, for modeſt diffidence, and anxious hope.

Hitherto we have followed Ulyſſes in his voyage over the turbulent and dangerous ocean of ſenſe; in which we have ſeen him ſtruggling againſt the ſtorms of temptation, and in danger of periſhing through the tempeſtuous billows of vice. We muſt now attend him in the region of imagination, and mark his progreſs from the enchanted iſland, till he regains the long loſt empire of his ſoul. That the poet then by Calypſo occultly ſignifies

employing ſtratagems of various kinds, by all which he tranſmutes himſelf into different forms; ſo that at length being ſtripped of the torn garments by which his true perſon was

fies the phantaſy, is I think evident from his deſcription of her abode, (for the anonymous Greek author, affords us no farther aſſiſtance.) For ſhe is repreſented as dwelling in a cavern, illuminated by a great fire; and this cave, is ſurrounded with a thick wood, is watered by four fountains, and is ſituated in an iſland, far remote from any habitable parts, and inviroued by the mighty ocean. All which particulars correſpond with the phantaſy, as I preſume the following obſervations will evince. In the firſt place then, as the phantaſy is ſituated between ſenſe and cogitation, it communicates w th each in ſuch a manner that its beginning is the end of the cogitative power, and its end is the commencement of the ſenſes. Hence on account of its twofold nature it partakes of a twofold light; receiving in its ſupreme part the ſplendor of cogitation, and in its inferior part, a light correſponding to that of ſenſe. Now it is this inferior part or the common phantaſy, which is repreſented by he cave of Calypſo, for its light is artficial and external like that of fire: and this co reſpondence is evident from the etymology of the phantaſy, which is derived from φαὸς, or *light*. In the next place the iſland is ſaid to be ſurrounded with a thick wood, which evidently correſponds to a material nature, or this humid body, with which the phantaſy is inveſted: for ὕλη, or *a wood*, implies matter according to its primary ſignification. But the four fountains by which the cave is watered occultly intimate thoſe four gnoſtic powers of the ſoul diſcovered by the Pythagoreans, and embraced by Plato; *intelligence*, *cogitation*, *opinion*, and *imagination*. And theſe fountains are ſaid, with great propriety and correſpondence to communicate with each other. In the laſt place the iſland is ſaid to be inviroued with the ocean, which admirably agrees with a corporeal nature, forever flowing without admitting any periods of repoſe. And thus much for the ſecret agreement of the cavern and iſland with the regions of imagination.

But the poet by denominating the goddeſs, Calypſo, and the iſland, Ogygia, appears to me, very evidently to confirm the preceding expoſition: for Calypſo is derived from καλύπτω, which means *to cover as with a veil*; and Ogygia, is from ωγύγιος, *ancient*. Now, as we have been previouſly informed by Syneſius, the phantaſtic ſpirit, is the primary vehicle of the rational ſoul, which it derived from the planetary ſpheres, and in which it deſcended to the corporeal world. It may therefore with great propriety be ſaid to *cover* the ſoul, as with a fine garment, or veil; and it is no leſs properly denominated *ancient*, when conſidered as the firſt vehicle of the ſoul.

In this region of the phantaſy then, Ulyſſes is repreſented as an involuntary captive; continually employed in bewailing his abſence from his true country, and ardently longing to depart from the faſcinating embraces of the goddeſs. For thus his ſituation is beautifully deſcribed by the poet:

> But ſad Ulyſſes by himſelf apart,
> Pour'd the big ſorrows of his ſwelling heart;
> All on the lonely ſhore he ſat to weep,
> And roll'd his eyes around the reſtleſs deep;
> Tow'rd his lov'd coaſt, he roll'd his eyes in vain,
> 'Till dim'd with riſing grief they ſtream'd again. Lib. v. l. 82. &c.

His return however, is at length effected by means of Mercury, or reaſon, who prevails on the goddeſs to yield to his diſmiſſion. Hence after her conſent, Ulyſſes is ſaid with great propriety, to have placed himſelf on the throne, where Mercury had ſate: for reaſon now reſumes her proper ſeat, and begins to exerciſe her authority with undiſturbed controul. But Homer appears to me to inſinuate ſomething egregious, when he repreſents Ulyſſes on his departure from Calypſo, ſailing by night, and contemplating the order and light of the ſtars, in the following beautiful lines:

> And now rejoycing in the proſp'rous gales,
> With beating heart Ulyſſes ſpread his ſails;
> Plac'd at the helm he ſate, and mark'd the ſkies,
> Nor clos'd in ſleep his ever watchful eyes.
> There view'd the Pleiads, and the northern team,
> And great Orion's more refulgent beam,
> To which around the axle of the ſky
> The bear revolving, points his golden eye;

was concealed, he may recover the ruined empire of his ſoul. Nor will he even then be freed from moleſtation, till he has entirely paſſed over the raging ſea, and taken a long farewell

Who ſhines exalted on th' ætherial plain,
Nor bathes his blazing forehead in the main.
Far on the left thoſe radiant fires to keep
The nymph directed, as he ſail'd the deep.
Full ſeventeen nights he cut the foamy way;
The diſtant land appear'd the following day:
Then ſwell'd to ſight Phæacia's duſky coaſt,
And woody mountains half in vapour loſt;
That lay before him, indiſtinct and vaſt,
Like a broad ſhield amid the wat'ry waſte. Lib. v. l. 269, &c.

Indeed as Ulyſſes is the image of a man paſſing in a regular manner from a ſenſible life, and advancing from darkneſs to light, he is very properly repreſented as ſailing by the ſplendor of the ſtars, and directing his courſe by the moſt conſpicuous of theſe illuſtrious orbs. For ſtar-light correſponds to the light of the mathematical ſciences, which are the proper employment of one who is departing from the ſenſible phantaſy, and her detaining charms. And the ſtars themſelves correſpond to ideas, from which the light of ſcience is derived. Ulyſſes therefore who is haſtening to an intellectual life, contemplates theſe lucid objects with vigilant eyes, rejoycing in the illuminations and aſſiſtance they afford him, while ſailing over the dark ocean of a material nature.

But as he is now earneſtly engaged in departing from ſenſe, he muſt unavoidably be purſued by the anger of Neptune, whoſe ſervice he has forſaken; and whoſe offſpring he has blinded by ſtratagem, and irritated by reproach. Hence in the midſt of theſe delightful contemplations, he is almoſt overwhelmed by the waves of misfortune, rouſed by the wrath of his implacable foe. He is however through divine aſſiſtance of Leucothea, enabled to ſuſtain the dreadful ſtorm: for receiving from divinity, the immortal fillet of true fortitude, and binding it under his breaſt, (the proper ſeat of courage) he encounters the billows of adverſity, and bravely ſhoots along the boiſterous ocean of life.

Ulyſſes therefore having with much difficulty eſcaped the dangers ariſing from the wrath of Neptune, lands at length on the iſland of Phæacia, where he is hoſpitably received, and honourably diſmiſſed. Now as it is proper that he who like Ulyſſes departs from the deluſions of imagination, ſhould immediately betake himſelf to the more intellectual light of thought, the land of Phæacia, ought to correſpond to the realms of cogitation: and that this is the caſe the following diſcourſe will I perſuade myſelf abundantly evince. In the firſt place then this iſland is repreſented by the poet, as enjoying a perpetual ſpring; which plainly indicates, that it is not any terrene ſituation. Indeed the critical commentators have been ſo fully convinced of this, that they acknowledge Homer deſcribes Phæacia, as one of the Fortunate Iſlands; but they have not attempted to penetrate his deſign, by ſuch a deſcription. Now if we conſider the perfect liberty, unfading variety, and endleſs delight, which the regions of cogitation afford, we ſhall find that it is truly the fortunate iſland of the ſoul. In the next place the poet by the deſcription of the palace of Alcinous, the king of this iſland, egregiouſly inſinuates the pure and ſplendid light of cogitation: for thus he ſpeaks:

The front appear'd with radiant ſplendors gay,
Bright as the lamp of night, or orb of day.
The walls were maſſy braſs: the cornice high
Blue metals crown'd, in colours of the ſky:
Rich plates of gold the folding doors incaſe;
The pillars ſilver, on a brazen baſe;
Silver the lintels deep projecting o'er,
And gold the ringlets that command the door.
Two rows of ſtately dogs, on either hand,
In ſculptur'd gold, and labour'd ſilver ſtand.
Theſe Vulcan form'd intelligent to wait
Immortal guardians at Alcinous' gate. Lib. vii. l. 84, &c.

And

farewell of its storms; till though connected with a mortal nature, through deep attention to intelligible concerns, he becomes so ignorant of marine and material operations, as to mistake an oar for a corn-van.

Nor

And he represents it, as no less luminous internally, by night.

> Refulgent pedestals the walls surround,
> Which boys of gold with flaming torches crown'd;
> The polish'd ore reflecting ev'ry ray;
> Blaz'd on the banquets with a double day.

For this palace is not like the cavern of Calypso naturally obscure, but remarkably bright and refulgent. Indeed Homer by his description of the outside of this palace, sufficiently indicates its agreement with the planet Mercury, who is the god of speech; and cogitation as Plato beautifully observes in the Theætetus, is nothing more than inward discourse. For, according to astronomers, the planet Mercury is resplendent with the colours of all the other planets. Thus Baptista Porta in Cœlest. Physiog. p. 88. Videbis in eo Saturni luridum, Martis ignem, Jovis candidum, Veneris flavum, nec-non utriusque nitor, hilaritasque, et ob id non peculiaris formæ, sed eorum formam capit, cum quibus associatur, ob id in describendo ejus colore astrologi differunt. That is, "you may perceive in this planet the pale colour of Saturn, the fire of Mars, the whiteness of Jupiter, and the yellow of Venus: likewise the brilliancy and hilarity of each; and on this account it is not of a peculiar form, but receives the form of its associates, and by this means causes astrologers to differ in describing its colour."

But that the island of Phæacia, is the region of cogitation, is indisputably confirmed by Homer's account of the ships fabricated by its inhabitants: for thus he beautifully describes them:

> Ὄφρα σε τῇ πέμποσι τιτυσκόμεναι φρεσὶ νῆες.
> Οὐ γὰρ Φαιήκεσσι κυβερνητῆρες ἔασιν.
> Οὐδέ τι πηδάλι ἐστὶ τάτ' ἄλλαι νῆες ἔχουσιν.
> Ἀλλ' αὐταὶ ἴσασι νοήματα καὶ φρένας ἀνδρῶν.
> Καὶ πάντων ἴσασι πόλιας καὶ πίονας ἀγροὺς
> Ἀνθρώπων. καὶ λαῖτμα τάχισθ' ἁλὸς ἐκπερόωσι,
> Ἠέρι καὶ νεφέλῃ κεκαλυμμέναι· οὐδέ ποτέ σφιν
> Οὔτέ τι πημανθῆναι ἔπι δέος οὐδ' ἀπολέσθαι. Lib. viii. l. 556, &c.

i. e. "That ships intently directed by intellect, may send you to your country. For the Phæacians have no pilots, nor have the ships helms like others: but they know the thoughts and minds of men. They likewise know the cities and fertile fields of all men; and swiftly swim over the waters of the sea, covered with darkness and clouds: for they never are afraid of sustaining any damage, or of being utterly lost." Or in verse:

> So shalt thou instant reach the realm assign'd,
> In wond'rous ships self-mov'd, instinct with mind;
> No helm secures their course, no pilot guides,
> Like man intelligent they plow the tides,
> Conscious of ev'ry coast, and ev'ry bay,
> That lies beneath the sun's all seeing ray;
> And veil'd in clouds impervious to the eye,
> Fearless and rapid thro' the deep they fly.

Now it is absurd to suppose that Homer would ever employ such an hyperbole, in merely describing the excellency of the Phæacian ships: for it so eminently surpasses the bounds of probability, and is so contrary to the admirable prudence, which Homer continually displays, that it can only be admitted as an allegory, pregnant with latent meaning, and the recondite wisdom of antiquity.

It must here however be observed, that as the energies of cogitation are twofold, according to the objects on which they are employed (for they are either sensible or intellectual); so the manners of Alcinous and his nobles, are perfectly opposite to those of the other inhabitants. For these latter are thus described by the poet:

A race

Nor is it proper to believe that interpretations of this kind are forced, and are nothing more than the conjectures of ingenious men: but when we conſider the great wiſdom of antiquity,

A race of rugged mariners are theſe;
Unpoliſh'd men, and boiſtrous as their ſeas;
The native iſlanders alone their care,
And hateful he that breathes a foreign air.
Theſe did the ruler of the deep ordain
To build proud navies, and command the main;
On canvas wings to cut the wat'ry way;
No bird more light, *no thought more ſwift than they.* Lib. vii. l. 33, &c.

The laſt of which lines, ſo remarkably agrees with the preceding account, that I preſume no ſtronger confirmation can be deſired. Nor is the original leſs ſatisfactory:

Τῶν νέες ὠκεῖαι ἅτε πτερὸν ἠὲ νόημα.

i. e. "The ſhips of theſe are ſwift as a wing, or as *a conception of the mind.*" But the inhabitants of the palace, are repreſented as ſpending their days in continual feſtivity, and unceaſing mirth: in liſtening to the harmony of the lyre; or in forming the tuneful mazes of the joyful dance. And this diſtinction of manners, admirably agrees with the difference between vulgar, and intellectual cogitations: for the former of theſe are boiſterous, and rough, ſelfiſh and proud; ſkilled indeed in rapidity, but groveling and unpoliſhed. But the latter are conſtantly employed in intellectual feſtivity and mirth; in tuning the melodious lyre of divine recollection, or forming the reſponſive dance of refined imaginations. It was with the greateſt reaſon therefore, that Ulyſſes exclaimed on this occaſion:

How ſweet the products of a peaceful reign?
The heav'n taught poet, and enchanting ſtrain:
The well fill'd palace, the perpetual feaſt,
A land rejoycing, and a people bleſt.
How goodly ſeems it ever to employ
Man's ſocial days in union, and in joy?
The plenteous board high-heap'd with cates divine,
And o'er the foaming bowl the laughing wine. Lib. ix. l. 3, &c.

And here we may obſerve how much the behaviour of Ulyſſes at the palace of Alcinous, confirms the preceding expoſition, and agrees with his character as a man paſſing in a regular manner from the deluſions of ſenſe, to the realities of intellectual enjoyment. For as he is now ſeated in the palace of cogitation, it is highly proper that he ſhould call to mind his paſt conduct, and be afflicted with the ſurvey; and that he ſhould be wakened to ſorrow by the lyre of reminiſcenſe, and weep over the follies of his active life. Hence when the divine bard Demodocus, inſpired by the fury of the muſes, ſings the wrath of Ulyſſes and Achilles, on his golden lyre; Ulyſſes is vehemently affected with the relation. For:

Touch'd at the ſong, Ulyſſes ſtrait reſign'd
To ſoft affliction all his manly mind:
Before his eyes the purple veſt he drew,
Induſtrious to conceal the falling dew:
But when the muſic paus'd, he ceas'd to ſhed
The flowing tear, and rais'd his drooping head. Lib. viii. l. 83, &c.

And when the inhabitants of the palace, or refined cogitations, tranſported with the ſong, demanded its repetition:

Again Ulyſſes veil'd his penſive head,
Again unmann'd a ſhower of ſorrow ſhed.

For

antiquity, and how much Homer excelled in prudence and in every kind of virtue, we ought not to doubt, but that he has heavenly reprehended the images of divine things under

For reminiscence is delightful to the former, because purified from guilt; but affective to the latter, because he has not yet arrived at the summit of virtue, and acquired the perfection of contemplative peace.

But while Ulysses is at the palace of Alcinous, Homer takes occasion of introducing, some admirable mythological account of the loves of Mars and Venus; the explication of which from Proclus, on Plato's Republic, page 386. will be found highly acceptable to the Platonic reader, and vindicate Homer from acting improperly by introducing this excellent fable. "Both Vulcan and Mars (says Proclus) operate about the mundane world. And Mars imparts heroical, perpetually sacrificing, and confusedly exciting the contrariety of the universe, that the world may exist perfect and entire from all its parts. But Vulcan adorns the whole fabulous machine by his artifice, and fills it with cosmic realities, proportions, and powers of nature. Hence he is feigned by Homer to construct twenty tripods about the heavens, that he may adorn them with the most perfect of many-sided figures: and he is likewise said to imitate a multitude of fabulous forms, variously figured, and artificially adorned, as when he says:

Cranes, lionesses, panthers, all their sex I wrought. Iliad. xviii.

But each of these genera requires the affiliation of Venus; Mars that he may inject order and harmony in contrary natures; but Vulcan that he may induce beauty, in fabulous spectacles, and thus render the world beautiful and divine. However from Venus is every where, Vulcan indeed always enjoys her, according to the superior orders of beings. As for instance, if Vulcan is super-mundane, Mars is mundane; and if the former is in the heavens, the latter enjoys Venus, in the regions subject to the moon. Hence Vulcan is said to have taken Venus for his wife according to the will of Jove; but Mars is reported to have committed adultery with Venus. For the cause of beauty, and conciliations, is naturally conjoined with the artificer of fabulous contexts: but a lover is a manner foreign from the preceding deity of divisions and contrariety: for the collective, are opposed to the separating powers of gods. And hence fables have given the appellation of adultery, to the conflux of dissimilar causes. But a conflux of this kind was necessary to the world, that contraries might join in mutual conciliation, and the war of the mundane community in peace. Indeed as in the celestial regions, beauty, elegance of form, and the intersections of Vulcan, are particularly conspicuous: but in the realms of generation, elementary war, opposition, contrariety of natural powers, and the gifts of Mars, reside: on this account I say, the fair beginning from the heavens the congress of Mars and Venus, belongs to Vulcan, with all whose affairs he unites a mundane co-operation.

After this, Vulcan entangles them with adamantine bonds, not little to other gods, that he may connect the mundane genera, with artificial realities: and may produce one confluxion from the contrarieties of Mars, and the conciliating benefits of Venus. For both are required in generation. But according to Timæus, there are three bonds of celestial, and others of sublunary concretion: and the latter are dissoluble, but the former of a perpetual nature. Hence Vulcan at last dissolves the bonds, with which he had confined Venus and Mars; and thus he effects through the perfection of Neptune.

What love importunate to loads the god.

For Neptune delivers that the perpetual continuity of generation, may be preserved, and that the circle of motion may renovate first effects: causes requisite natures to be conjoined, and such as are corrupted to be renewed. Is there any reason then why we should wonder at Homer's so giving Mars and Venus to be fettered with the bonds of Vulcan, since Timæus also gives the appellation of bonds, to the demiurgic realities, by which the celestial gods confer the generative variety? Is it not likewise proper as to the nature of things, that these bonds should be again dissolved, since they are the bonds of generation? Indeed the first and most perfect artificer of things seems to have composed the world from contrary elements, and to have given them friendship in a certain proportion, by uniting the effects of Vulcan, Venus, and Mars, in association with each other. For producing the contrariety of the elements, he operates within limited, according to Mars: but where he introduces friendship, he energizes according to the power of Venus: and by connecting the natures of Venus and Mars, he appears to contain in himself the primitive exemplar of Vulcan's art. Come let us sail, and ascend with all the gods. Besides the power artificially uniting these bodies, produces mortal animals, and again restores them when they perish, labouring at the same time with Vulcan, mundane bonds, and primarily containing in themselves the

der the concealments of fable. For it is not poſſible that this whole expoſition could be deviſed, unleſs from certain eſtabliſhed truths, an occaſion of fiction had been given. But

the cauſes of their diſſolution. For every where, he who poſſeſſes a bond, knows alſo the neceſſity of its ſolution."

We may here too obſerve that Ulyſſes, with the greateſt propriety relates his paſt adventures in the palace of Alcinous: for as he now betakes himſelf to the intellectual light of thought, it is highly neceſſary that he ſhould review his paſt conduct, faithfully enumerate the errors of his life, and anxiouſly ſollicit a return to true manners, and perfect rectitude of mind. But the deſcription of his departure from Phæacia is no leſs pregnant with philoſophical myſtery, than poetical beauty. For as he is now paſſing by the pure energy of thought, to his true country, the rational ſoul; he is repreſented as departing by night, and falling into ſo profound a ſleep in his voyage, as to be inſenſible for ſome time of its happy conſummation. For thus according to the poet:

He climb'd the lofty ſtern; then gently preſt
The ſwelling couch, and lay compos'd to reſt. Lib. xiii. l. 75.

And the vehemence of his thoughts, is finely repreſented by the rapidity of the veſſel:

Now plac'd in order the Phæacian train
Their cables looſe, and launch into the main:
At once they bend, and ſtrike their equal oars,
And leave the ſinking hills, and leſſ'ning ſhores.
While on the deck the chief in ſilence lies,
And pleaſing ſlumbers ſteal upon his eyes.
As fiery courſers in the rapid race
Urg'd by fierce drivers thro' the duſty ſpace,
Toſs their high heads, and ſcour along the plain;
So mounts the bounding veſſel o'er the main.
Back to the ſtern the parted billows flow,
And the black ocean foams and roars below.
Thus with ſpread ſails the winged galley flies;
Leſs ſwift an eagle cuts the liquid ſkies;
Divine Ulyſſes was her ſacred load,
A man in wiſdom equal to a god!
Much danger long and mighty toils he bore,
In ſtorms by ſea, and combats on the ſhore;
All which ſoft ſleep now baniſh'd from his breaſt,
Wrapt in a pleaſing, deep, and death-like reſt.

By the night, therefore, Homer intimates the ſtillneſs and tranquillity which attends intellectual contemplation: and by the ſweet and death-like ſleep of Ulyſſes, his being abſtracted from all ſenſible concerns, while merged in the profound and delightful energies of thought. For he has now bid adieu to the ſtorms of paſſion, and the conflicts of deſire; and is haſtening to expel theſe dangerous foes, from the ſecret receſſes of his ſoul.

Nor is it without reaſon that the poet repreſents Ithaca as preſenting itſelf to the mariners view, when the bright morning ſtar emerges from the darkneſs of night. For thus he ſpeaks:

But when the morning ſtar, with early ray,
Flam'd in the front of heav'n, and promis'd day;
Like diſtant clouds the mariner deſcries
Fair Ithaca's emerging hills ariſe. Lib. xiii. l. 93, &c.

Since it is only by the dawning beams of intellect, that cogitation can gain a glimpſe of the native country, and proper empire of the ſoul.

But when Ulyſſes awakes from the delightful ſleep of his corporeal energies, and, through the aſſiſtance of Mi-

nerva,

But rejecting the discussion of this to another work, we shall here finish our proposed explication of the cave of the nymphs.

SECTION

serve, recognizes his native land, he immediately enters into a consultation with the goddess, how he may effectually banish the various perturbations and inordinate desires which yet lurk in the penetralia of his soul. For this purpose it is necessary that he should relinquish all external possessions, mortify every sense, and empty every stratagem, which may finally destroy these malevolent foes. On this occasion the garb of poverty, the wrinkles of age, and the wants of life, are symbols of mortified habits, desertion of sensible pursuits, and an intimate conversion to intellectual good. For the sensitive eye must now give place to the purer light of the rational soul; and the strength and energies of a corporeal nature must yield to the superior vigour of intellectual exertion, and the severe labour of moral investigation. And this Homer appears most evidently to insinuate by the following beautiful lines:

> Now seated in the olive's sacred shade,
> Conser the hero and the martial maid,
> The goddess of the azure eyes began:
> Son of Laertes! much-experienc'd man!
> The suitor train thy earliest care demand,
> Of that luxurious race to rid the land:
> Three years thy house their lawless rule has seen,
> And proud addresses to the matchless queen.
> But she thy absence mourns from day to day,
> And inly bleeds, and silent wastes away:
> Elusive of the bridal hour she gives
> Fond hopes to all, and all with hopes deceives. Lib. xiii. l. 372.

Hence:

> It sits thee now to wear a dark disguise,
> And secret walk unknown to mortal eyes,
> For this my hand shall wither ev'ry grace,
> And ev'ry elegance of form and face,
> O'er thy smooth skin a back of wrinkles spread,
> Turn hoar the auburn honours of thy head,
> Disfigure every limb with coarse attire,
> And in thy eyes extinguish all the fire;
> Add all the wants and the decays of life,
> Estrange thee from thy own; thy son, thy wife;
> From the loath'd object ev'ry sight shall turn,
> And the blind suitors their destruction scorn. Lib. xiii. l. 397, &c.

After this follows the discovery of Ulysses to Telemachus, which is no less philosophically sublime than poetically beautiful. For by Telemachus we must understand intellectual virtue, the true progeny of Ulysses, or the rational soul. Hence Ulysses, while employed in the great work of mortification, recognizes his legitimate offspring, and secretly plans with him the destruction of his insidious foes. The assistance however of Minerva, or wisdom, is requisite to this discovery, who beautifies and adorns the rational soul, and restores it on this occasion, to its pristine dignity and excellence of form. But it is necessary that this should be nothing more than a temporary change, till the enemies of reason are destroyed, and the dominion of intellect repaired. With great propriety, therefore, is Telemachus represented as exploring his absent father, and impatient for his return: for the rational soul then alone associates with true virtue, when it withdraws itself from sensible delights, and earnestly meditates a restoration of its fallen dignity, and original sway.

And now Ulysses presents himself to our view in the habits of mortification, hastening to his long deserted palace, or the occult recesses of his soul, that he may mark the conflict, and plan the destruction of the malevolent passions, who are secretly attempting to subvert the empire of his mind. Hence the poet very properly and pathetically exclaims:

SECTION III.

IT is now requiſite that we ſhould direct our attention to Iamblichus, the celebrated diſciple of Porphyry, who, on account of the ſublimity of his genius, and his admirable proficiency in theological learning, was ſurnamed, *the divine*. This extraordinary man who appears to have been born for the advancement of theology, though zealouſly attached

> And now his city ſtrikes the monarch's eyes,
> Alas! how chang'd! a man of miſeries;
> Prop't on a ſtaff, a beggar old and bare,
> In tatter'd garments, ſtutt'ring with the air! Lib. xvii. l. 201, &c.

However as this diſguiſe was ſolely aſſumed for the purpoſe of procuring ancient purity and lawful rule, he diveſts himſelf of the torn garments of mortification, as ſoon as he begins the deſtruction of occult deſires; and reſumes the proper dignity and ſtrength of his genuine form. But it is not without reaſon that Penelope, who is the image of intellectual purity, furniſhes the inſtrument by which the hoſtile rout of paſſions are deſtroyed: for what beſides the arrows of purity can be ſufficient to extirpate the leading bands of impurity and vice? Hence as ſoon as he is furniſhed with this irreſiſtible weapon, he no longer defers the ruin of his inſidious foes, but:

> Then fierce the hero o'er the threſhold ſtrode;
> Stript of his rags, he blaz'd out like a god.
> Full in their face the lifted bow he bore,
> And quiver'd deaths a formidable ſtore;
> Before his feet the rattling ſhow'r he threw,
> And thus terrific to the ſuitor crew. Lib. xxii. l. 1, &c.

But Homer repreſents Penelope as remaining ignorant of Ulyſſes, even after the ſuitors are deſtroyed, and he is ſeated on the throne of majeſty, anxious to be known, and impatient to return her chaſte and affectionate embrace. For thus he deſcribes her:

> Then gliding through the marble valves in ſtate,
> Oppos'd before the ſhining fire ſhe ſate.
> The monarch by a column high enthron'd,
> His eye withdrew, and fix'd it on the ground
> Anxious to hear his queen the ſilence break:
> Amaz'd ſhe ſate, and impotent to ſpeak;
> O'er all the man her eyes ſhe rolls in vain,
> Now hopes, now fears, now knows, then doubts again. Lib. xxiii. l. 88, &c.

Nor ought this to appear ſtrange, for purity has been ſo long abſent from his ſoul, that it is difficult to obtain a recollection of their priſtine union, and legitimate aſſociation with each other. However in order to facilitate this diſcovery, he renders all harmonious and pure, within the receſſes of his ſoul; and by the aſſiſtance of Minerva, or wiſdom, reſumes the garb and dignity which he had formerly diſplayed.

> Then inſtant to the bath, (the monarch cries)
> Bid the gay youth and ſprightly virgins riſe,
> Thence all deſcend in pomp, and proud array,
> And bid the dome reſound the mirthful lay;
> While the ſweet lyriſt airs of raptures ſings,
> And forms the dance reſponſive to the ſtrings. Lib. xxiii. l. 131, &c.

And

attached to the Platonic philoſophy, yet explored the wiſdom of other ſects, particularly of the Pythagoreans, Egyptians, and Chaldeans; and formed one beautiful ſyſtem of recondite knowledge, from their harmonious conjunction. There is a ſhort life of this philoſophic hero extant, by Eunapius, the ſubſtance of which is as follows: Iamblicus was deſcended of a family equally illuſtrious, fortunate, and rich. His country was Chalcis, a city of Syria, which they denominate Cælen. He aſſociated with Anatolius, who was the ſecond to Porphyry, but he far excelled him in his attainments, and aſcended to the very ſummit of philoſophy. But after he had been for ſome time connected with Anatolius, and moſt probably found him inſufficient to ſatisfy the vaſt deſires of his ſoul, he applied himſelf to Porphyry, to whom (ſays Eunapius) he was nothing inferior, except in the ſtructure and power of compoſition. For his writings were not ſo elegant and graceful as thoſe of Porphyry: they were neither agreeable, nor conſpicuous; nor free from impurity of diction. And though they were not entirely involved in obſcurity, and perfectly faulty; yet, as Plato formerly ſaid of Xenocrates, he did not ſacrifice to the *mercurial Graces*. Hence he is far from detaining the reader with delight, or inviting him to a peruſal of his works; but he rather ſeems to avert and dull the attention, and fruſtrate the reader's expectation. However, though the ſurface of his conceptions is not covered with the flowers of elocution, yet his thoughts contain a moſt admirable depth, and his imagination is truly divine. He ſhared in an eminent degree the favour of divinity on account of his cultivation of juſtice; and obtained a multitude of aſſociates and diſciples, who came from all parts of the world, for the purpoſe of participating the ſtreams of wiſdom, which ſo plentifully flowed from the ſacred

And afterwards Cyclas is deſcribed, as appearing through the interpoſition of Minerva, like one of the immortals:

So Pallas in heroic form appears
With manly grace, and like a god he ſtears. Iliad xiii. 1. 67.

For indeed he who, like Cyclas, has obtained the power of his paſſions and gratified himſelf from thoſe fountains, to which alone it is the voice of nature, to aſſimilate with ſignal proficiency itſelf. And now they no longer become enemy mixed to ſimilitude purely, but unite according to the ſame and only ſtate of their active mind, and recognize the power of reaſon alone. For then perfect reconciliation will enſue, and the anxiety of diſcord will be changed into friendſhip of the ſoul, and wave of ſupervene to ſuch

And thus we have viewed Cyclas through his various writings, and have [illegible] the moſt conſpicuous of his luſt. We muſt however remember according to the beautiful ſaying of [illegible] to the divine gentile, that he is not free from error; all of us ſuffer from the ſame diſeaſe, but ſome more and ſome leſs. Nor ſhould we be diſcouraged by the multitude of errors, but rather conſider the magnitude of virtues, and the number of thoſe who have not [illegible]

[illegible]
And [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

fountain of his wonderful mind. Among theſe was Sopater * the Syrian, of the greateſt eloquence, both in compoſition and diſcourſe; Euſtathius the Cappadocian; and of the Greeks, Theodorus and Euphraſius. All theſe were excellent for their virtues and attainments, as well as many others of his diſciples, who were not much inferior to the former in eloquence; ſo that it ſeems wonderful, how Iamblichus, could attend to them all, with ſuch gentleneſs of manners and benignity of diſpoſition.

He performed ſome few particulars relative to the veneration of divinity, by himſelf, without his aſſociates and diſciples; but was inſeparable from his familiars in moſt of his operations. He imitated in his diet the frugal ſimplicity of the moſt ancient times; and during his repaſt exhilerated thoſe who were preſent by his behaviour, and filled them as with nectar by the ſweetneſs of his diſcourſe. Some of theſe inflamed with an unwearied deſire of hearing his wiſdom, and incapable of being ſatiated with its pleaſure, were his conſtant gueſts, and once addreſſed him as follows: "Why, O divine maſter, do you thus act alone, without communicating to us your moſt conſummate wiſdom? Yet it has been reported to us by your ſervants, that you have been ſeen, while engaged in prayer, elevated more than ten cubits from the ground, your body and garments at the ſame time being changed into a golden colour; and that when your prayers have been finiſhed, your body has returned to its priſtine form, and deſcending to the earth you have aſſociated and diſcourſed with us as before." Upon this Iamblichus laughed (though he was not addicted to laughter) and replied: "He who invented this falſe relation, was not unpleaſant; but in future, nothing ſhall be tranſacted without you."

The two following circumſtances, relative to the theurgical powers of this wonderful man, are related by Eunapius, which the reader may credit or reject as he pleaſes. At that ſeaſon of the year, when the ſun riſes in conjunction with the dog-ſtar, Iamblichus went with his diſciples to ſacrifice, in one of the ſuburbs of the city; and after the ſacrifice was performed they returned to town, gently walking along, and diſcourſing concerning the gods, as a ſubject very proper for the occaſion. Then Iamblichus, who was perfectly loſt in thought in the midſt of the diſcourſe, whoſe voice was fallen, and eyes immoveably fixed on the earth, turned to his companions and exclaimed: "Let us take another road, for not far from hence there is a funeral proceſſion". Iamblichus accordingly choſe a purer way, and was accompanied by ſome who were aſhamed to forſake their maſter: but the greater part, among whom was Aedeſius, obſtinately perſiſted in the former road, aſcribing the affair to the vanity and ſuperſtition of the man, and tracing the event with avidity and caution. In the mean time, thoſe whoſe office conſiſts in burying the dead approached, contrary to the expectation of his diſciples; and upon enquiring whether they had taken that road from the firſt, they anſwered in the affirmative, and that no other path led to the place of their deſtination.

* This Sopater, ſucceeded Plotinus in his philoſophical ſchool. Vide Sozom. Hiſt. Eccleſ. 1, 5.

But the second relation is far more wonderful than the present: for in the first (says Eunapius) perhaps the sight and smell of Iamblichus was more powerful than that of his disciples. His associates therefore, not satisfied with this testimony of his extraordinary powers, were desirous to try him in a greater affair, and upon soliciting Iamblichus for this purpose, he replied that a proof of this kind was not dependant on his own will, but must be reserved to a proper opportunity. In a short time after this, they all went to Gadara in Syria, a place so famous for baths, that, after Baiæ in Campania, it is the second in the Roman empire. Here a dispute concerning baths arising while they were bathing, Iamblichus smiling, said to them: "Though what I am about to disclose is not pious, yet for your sakes it shall be undertaken;" and at the same time he ordered his disciples to enquire of the natives, what appellations had been formerly given to two of the hot fountains, which were indeed less than the others, but more elegant and graceful. Upon enquiry, they found themselves unable to discover the cause of their nomination; but were informed that the one was called ἔρως, *ἀνὴρ*, or *love*, and the other ἀνάρως, *ἀνάρως*, or *the god who avenges the injuries of lovers*. Iamblichus immediately touching the water with his hand (for he sat perhaps on the margin of the fountain) and murmuring a few words, raised from the bottom of the fountain, a fair boy, of a moderate stature, whose hair seemed to be tinged with gold, and the upper part of whose breast was of a luminous appearance. His companions being astonished at the novelty of the affair, let us pass on says he, to the next fountain; and at the same time he arose, fixed in thought, and performing the same ceremonies as before, called forth the other love, who was in all respects similar to the former, except that his hair, scattered in his neck was blacker, and was like the sun in refulgence. At the same time both the boys, eagerly embraced Iamblichus, as if he had been their natural parent: but he immediately restored them to their proper seats, and when he had washed departed from the place. After this affair, the astonishment of his familiars and disciples was so great, that they submitted to the doctrines of Iamblichus with implicit assent. Eunapius observes that other extraordinary particulars were related of Iamblichus, but that they had too much the appearance of fables to be combined with historical veracity. He adds that he should fear the preceding relations, were delusive and fictitious, if they had not been confirmed by men who were eye-witnesses of their reality.

A celebrated philosopher named Alypius, lived at the same time as Iamblichus, who was deeply skilled in dialectic; but was of such a short stature, and so slender in body, that he exhibited the appearance of a pygmy. However his great abilities amply compensated for this trifling defect; and he might be said to have emigrated into soul alone, by which he was possessed as by some inspiring god. This Alypius had many followers, but his mode of philosophising, was confined to private conference and disputation, without committing any of his dogmata to writing. Hence his disciples gladly applied themselves

themſelves to Iamblichus, deſirous to draw abundantly from his copious mind, as from a perennial and overflowing fountain. The fame therefore of each continually increaſing, they once accidentally met like two refulgent ſtars, and were ſurrounded by ſo great a croud of auditors, that it repreſented ſome mighty muſæum. While Iamblichus on this occaſion waited rather to be interrogated than to propoſe a queſtion himſelf, Alypius, contrary to the expectation of every one, relinquiſhing philoſophical diſcuſſions, and ſeeing himſelf ſurrounded with a theatre of men, turned to Iamblichus, and ſaid to him: *tell me O philoſopher, is the rich man unjuſt, or the heir of the unjuſt? For in this caſe there is no medium.* But Iamblichus hating the acuteneſs of the queſtion, replied, "This kind of diſputation, O illuſtrious man, relative to external concerns, is foreign from our philoſophical mode; ſince we alone propoſe as ſubjects of ſpeculation, characters replete with philoſophic virtue." After he had ſaid this he departed, and at the ſame time all the ſurrounding multitude was immediately diſperſed. But Iamblichus collecting himſelf when alone, and admiring the acuteneſs of the queſtion, often privately reſorted to Alypius, whom he vehemently extolled for the ſubtility of his judgment, and the ſagacity of his genius; and whoſe life he hiſtorically and copiouſly delineated. This Alypius was an Alexandrian by birth, and died in his own country, worn out with age: and after him Iamblichus *, leaving behind him many roots and fountains of philoſophy; which, through the cultivation of ſucceeding Platoniſts, produced a fair variety of vigorous branches and copious ſtreams.

The writings of this extraordinary man, though ineſtimably valuable, are not numerous; and the greater part are unfortunately loſt. The only one which is preſerved, relative to the Platonic theology, is the following:

On the myſteries of the Egyptians, Chaldæans, and Aſſyrians: or an anſwer to the epiſtle of Porphyry to the prophet Anebo. This admirable book contains many of the greateſt arcana, of the ancient theology, reſpecting gods and dæmons, their cultivation and commerce, and the conjunction of the ſoul with divinity. It fully ſolves all the doubts concerning the impaſſivity of a divine nature; demonſtrates its omnipreſence, and never-failing energy; ſhews that we are continually ſurrounded with its light; and that all the divinities ſubſiſt in indiviſible union, and indiſſoluble conſent. There is an excellent Greek and Latin edition of this work, publiſhed, with copious notes, by the learned Gale: and it is greatly to be wiſhed, though but little to be expected, that it was once tranſlated into Engliſh, accompanied with a philoſophical comment, which might both diſcloſe its beauties, and reveal the ſacred myſteries it contains.

Among the loſt writings of Iamblichus, reſpecting theology, we may reckon in the firſt place, *three books, concerning the phyſics, ethics, and theology of arithmetic*: or φυσικὰ ἠθικὰ καὶ θεολογούμενα ἀριθμητικῆς. Theſe three books, form the fifth, ſixth, and ſeventh,

* The exact time of Iamblichus' death is unknown; it is however certain, that it was during the reign of Conſtantine; and according to the accurate Fabricius, prior to the year of Chriſt 333. Biblioth. Græc. Tom. 4. p. 283.

of

of a great work by Iamblichus, in ten books, entitled, *a collection of the Pythagoric dogmata*. And the ſeventh book, Fabricius thinks is ſtill extant.

2. *Concerning the gods*. From this work the emperor Julian derived moſt of the dogmata contained in his elegant oration to the ſun.

3. *Commentaries on the Parmenides, Timæus and Phædo of Plato*. The ineſtimable value of the firſt and ſecond of theſe commentaries is ſufficiently evident from the frequent mention made of them by Proclus, in his writings on theſe dialogues; and from the admirable paſſages contained in them, which he has fortunately preſerved.

4. *Concerning the perfection of the Chaldaic philoſophy*. The twenty-ſeventh book of this great work, is cited by Damaſcius, in his MS. treatiſe περὶ ἀρχῶν: and this whole diſcourſe was ſtudied with avidity by Proclus, and enabled him as we are informed by Marinus, to aſcend to the very ſummit of theurgic virtue. And thus much for the works of Iamblichus relative to the Platonic theology.

But here we may obſerve with wonder how the deepeſt myſteries of this theology, became more and more explicitly unveiled, in proportion as the Roman empire was haſtening to its diſſolution; and Chriſtianity to an univerſal eſtabliſhment. Though the works of Plotinus and Porphyry contain all the arcana of theology, yet they contain them occultly and conciſely. Their depth is in a great meaſure latent, and their fire condenſed. But in Iamblichus we find greater copiouſneſs and preciſion: theology is rendered more eaſy of acceſs, and her light is more widely diffuſed. The profundity of barbarian theology is more accurately explored, and its conſent with that of Pythagoras and Plato more abundantly and diſtinctly evinced. We find in his works, myſtery united with bright evidence, religion with ſublime philoſophy, and ſcience with divine illumination. Now this difference in the mode of unveiling the Platonic theology, is perfectly agreeable to the ſtate of the Roman empire, and the new religion, at the periods when theſe modes were adopted. In the times of Plotinus and Porphyry, when Galienus, and Diocleſian ſwayed the ſceptre of the world, Rome was in the middle of her courſe to deſtruction and Chriſtianity had nearly accompliſhed one half of her journey to eccleſiaſtical empire. However as neither the fall of Rome, nor the eſtabliſhment of Chriſtianity, were then abſolutely certain, theſe philoſophers were cautious in diſcloſing all, that a baſer period might require. This period Iamblichus was deſtined to ſee approach under the reign of the emperor Conſtantine; when the new religion was eſtabliſhed, and the old treated with ridicule and contempt. Indeed the new religion had no ſooner aſcended the throne, and aſſumed the reins of arbitrary power, but ſhe was ſurrounded with myriads of unphiloſophic converts, and in her progreſs to deſpotiſm, drew after her the capital of Rome; and at once fixed the deſtruction of its ancient empire. And thus we may ſee that the writings of Iamblichus were perfectly correſpondent to the depravity of the times.

The moſt celebrated diſciple of Iamblichus, appears to have been one Œdeſius a Cappadocian, who was of noble birth; but, as is generally the caſe with philoſophers,

poſſeſſed but a ſlender eſtate. According to Eunapius who wrote his life, he was not much inferior to Iamblichus, except in a divine afflatus, which ſeems to have been peculiar to that illuſtrious hero. To Œdeſius we may add Maximus and Dexippus, both diſciples of Iamblichus; and frequently cited by Simplicius in his elaborate commentary on the predicaments of Ariſtotle. But here we muſt regret, that none of the immediate ſucceſſors of Iamblichus, contributed any thing to the advancement of the ancient theology. They reverenced indeed the arduous flights, and divine genius of their maſter; but never attempted even to imitate, what they could not equal, and were content to grovel without preſuming to ſoar. The iniquitous times indeed of the emperor Conſtantine, may afford a reaſonable apology for the decay of genius, and the langour of philoſophy. The deſtructive rod of eccleſiaſtical empire was already extended; and its lethargic influence was already felt on the active ſpirit of liberal inveſtigation. Religious faction had now ſtarted from the boſom of deluſion; and *holy* perſecution, was haſtening from the infernal ſeats, to maſſacre the nations, and deluge Europe and Aſia in blood. The peaceful aud inſtructive diſputes of philoſophers, were now beginning to be exchanged for the jargon of orthodox and heterodox ſectaries; and the calm voice of ancient theology, was ſilenced by the barbarous and tumultuous ſounds, of Arian and Trinitarian clamours. This alarming change however, checked only for a ſhort period, the generous ardour of the philoſophic genius: for the æra was now at hand in which theology was deſtined to diſplay the full blaze of her celeſtial light. *Sacred* zeal indeed preſumed to hurl the darts of *faith*, againſt her venerable perſon: but her arm was deſtitute of vigour, and her weapons fell innocent to the ground. The buckler of *true* theology was not to be tranſpierced, by ſuch imbecil darts; and the attempt was like that of weak old Priam, againſt the ſtrong and youthful Pyrrhus.

——— telumque imbelle ſine ictu
Conjecit: rauco quod protenus ære repulſum,
Et ſummo clypei necquicquam umbone pependit.

But the order of diſcourſe now brings us to a ſurvey of the laſt branch of the *theological tree*, in which we may diſcover amidſt numerous ramifications, and elegant foliage, exhauſtleſs vigour, and luxuriant fruit. The ſource of this illuſtrious branch was the great Athenian Plutarch, of whom ſuch honourable mention has been made, in the preceding life of Proclus *. To Plutarch ſucceeded Syrianus and Olympiodorus; and to theſe Hermeas and Proclus. It was by the labours of this laſt philoſophical hero, that theology received the conſummation of excellence, and exhibited diffuſed elegance, combined with majeſty and ſtrength. This will be evident from peruſing his life, and ſtudying his more abſtruſe writings, among which the following elements may be deſervedly ranked. Though Marinus as we have obſerved in the life of Proclus, was his immediate ſucceſſor, yet Aſclepiodotus the maſter of Damaſcius, was his beſt diſciple;

* See vol. I. of this work.

and

and was moſt capable of receiving the exuberant ſtreams of wiſdom, which vigorouſly flowed from his philoſophic mind. After Aſclepiodotus an illuſtrious ſeries of philoſophers ſucceeded, who terminated the golden chain of Platoniſts, and were the laſt advocates for the dignity of ancient wiſdom and theology. Theſe great men were Zenodotus, Severianus, Ammonius Hermias, Hierius, Aſclepius, Simplicius, Iſidorus, Damaſcius, Diogenes, Eulalius and Priſcian. But of all theſe, none except Damaſcius, appears to have contributed any thing to the perfection of theology: for the works of the reſt conſiſt for the moſt part in excellent commentaries on Ariſtotle; but Damaſcius, in his book, on principles, has preſerved a moſt valuable ſtore of recondite wiſdom, and unfolded ſome of the ſublimeſt myſteries of ancient theology. This ineſtimable work is however ſtill in manuſcript, and is not likely in the preſent age to emerge from its ſhameful concealment.

Seven of the preceding illuſtrious heroes, who were united by friendſhip as well as philoſophy, Damaſcius the Syrian, Simplicius of Cilicia, Eulalius the Phrygian, Priſcian the Lydian, Hermias and Diogenes of Phœnicia, and Iſidorus of Gaza, diſguſted with the religion of their ſovereign Juſtinian, determined to ſeek from Choſroes the Perſian king, that liberty of conduct which their native country denied. Choſroes though a barbarian, was deeply ſkilled in the philoſophy of Plato and Ariſtotle; and was ſo imbued with the dogmata of Plato, that not one of his abſtruſe dialogues eſcaped his penetrating genius. The ill ſucceſs however of theſe philoſophers in their journey to Perſia, gives us reaſon to ſuſpect that the philoſophic attainments of Choſroes, were influenced more by pride than the love of truth: and that he affected the name without poſſeſſing the requiſites of a ſage. The return of theſe philoſophers was precipitate, and their diſappointment extreme. They derived however a conſiderable advantage from their expedition; and the conduct of Choſroes in this particular will confer immortal honour on his character and name. He was the means of procuring for the ſeven ſages, an exemption from the barbarous penal laws of Juſtinian againſt the Pagans; and thus enabled them to end their days in ſecurity and peace, and in the enjoyment of that liberty of conſcience which no religion before the Chriſtian, ever attempted to deſtroy.

The reign of Juſtinian, indeed, as it firmly eſtabliſhed the Chriſtian religion, terminated the glorious empire of philoſophy, by ſuppreſſing the ſchools of Athens, and ſuſpending the eccleſiaſtical ſword over the heads of heathen theologiſts. But the fall of philoſophy was naturally ſucceeded by the darkneſs of deluſion and ignorance; by the ſpirit of wild fanaticiſm, and intolerant zeal; by the loſs of courage and virtue; and by the final diſſolution of the empire of the world. She was ruined indeed but not without revenge. War, peſtilence, and famine, were the ſcourges of a prince who had preſumed to demoliſh her ſchools, and intercept the diffuſion of her ſacred light: and his reign was diſgraced by an irreparable decreaſe of mankind, in the moſt fertile re-

gions of the earth. We may add too that his dominions were alarmed with the dreadful blaze of two mighty comets, whoſe malignant light foretold approaching calamities and war; and ſignified perhaps the eſtabliſhment of religious anarchy, and the commencement of *barbarous impiety* and folly. And to complete this catalogue of prodigies and deſolation, every year of his reign was marked with violent earthquakes of uncommon duration, and incredible extent. The whole ſurface of the Roman empire was agitated with horrid internal convulſions; and enormous chaſms were formed by the earth's ſtrong vibrations. Large bodies were diſcharged into the air, and the ſea concurring in the general ruin, overflowed or deſerted its natural bounds, by alternately advancing and retreating with accumulated majeſty and ſtrength: and a mountain was torn from Libanus, and hurled into the waves, amidſt the dreadful toſſings of the deep. Hiſtory after this period exhibits nothing but religious diſſenſions, deſpicable *councils*, and bigotted ſects; the enmity of *ſaints*, and the diſcord of Neſtorians and Jacobites, Maronites and Armenians, Copts and Abyſſinians. *Religious* war, and *pious* rebellion ſucceeded to philoſophical theory; and Neſtor and Cyril led the confuſed and clamorous dance of eccleſiaſtical diſputation.

It would neither be conſiſtent with the deſign of this hiſtory, pleaſing to the author, nor entertaining to the Platonic reader to trace the rapid increaſe of barbariſm and ignorance, after the abolition of the Athenian and Alexandrian ſchools. It will be ſufficient to obſerve, that the jargon of innumerable ſects, eſtabliſhed a tyranny unknown to the Pagan world, the tyranny of religious deſpotiſm; and finally extirpated from the earth, the dominion of ancient wiſdom and virtue. From the incredible multitude of different perſuaſions, Chriſtianity loſt all appearance of a *revelation*; and by the conduct of its profeſſors, ſeemed rather calculated to confound than illuminate mankind. The ſame infatuated ſpirit has indeed marked its progreſs to the preſent day; and we find that in proportion as this baneful zeal prevails, knowledge retires, virtue droops, and magnanimity is deſtroyed: hypocriſy becomes the ſubſtitute for generoſity; and whining cant ſucceeds the decent confidence, inſpired by genuine dignity and worth. As the rapidity of a river is increaſed by the contraction of its channel; ſo its vigour is diminiſhed by the multiplication of its ſtreams. In a ſimilar manner, the influence of any religion is leſſened, when it is divided into various ſtreams of opinion, by the diſcord of party, and the zeal of profeſſion. The energy of the whole is loſt by diffuſion; and the river of the *Church* is weakened by the numerous and narrow rivulets of *Diſſenters*. Experience unfortunately ſhews, that the profeſſors of a national religion, are generally men of greater integrity, than thoſe who compoſe the diſſenting ſects; and the fact may be ſupported by a rational theory. The trifling employments, groveling cares, and contemptible fame which are neceſſarily connected with religious diſſenſion, unavoidably debilitate the mind, and contract the heart. The whole attention is engroſſed in regarding the little concerns, and ſupporting the narrow opinions of a party; and that ſtrength of underſtanding, and integrity of character, which are requiſite to acquire eminence

eminence in ſcience and virtue, are loſt in imbecile exertions and hypocritical cant. It is on this account that I ſhould prefer a diſſenter in Scotland, and a papiſt in France, to a diſſenter and catholic in England: for in thoſe countries they ceaſe to be ſectaries, and may conſequently in ſome degree become virtuous and wiſe.

It ſeems at firſt ſight ſurpriſing that there ſhould be no ſects among the Grecian polytheiſts: they were unanimous in their belief of a multitude of gods ſubordinate to one ſupreme: their mode of worſhip was uniformly the ſame; and they appear to have had no conception of religious innovation. Shall we ſay that a religion is falſe in proportion to its unity; that truth may be branched out into an endleſs variety of diſcordant ſtreams; and that error alone reſiſts the power of copious and confuſed diviſion? Such a ſpeculation is indeed curious, but not ſafe; and its reſult would perhaps be more logical than *orthodox*, and more informing than diſcreet! Let us therefore direct our attention, to a more important ſubject, and conſider the excellence of the Chriſtian religion with reſpect to the commercial intereſts of mankind. That Chriſtianity is not favourable to philoſophy (I mean that of the ancients) is evident from its cauſing the deſtruction of the ancient ſchools; which it has not yet reſtored, though more than a thouſand years have elapſed ſince their diſſolution. Indeed the wiſdom of a *ſage*, is not likely to coincide with the doctrine of a *fiſherman*; and implicit faith, ills ſuits with liberal doubt, and ſevere inveſtigation. However, the ſpirit of *meekneſs*, which Chriſtianity ſo admirably inculcates, though oppoſite to the *dignity* of philoſophy, promotes the humility of merchandize, and facilitates the emoluments of trade. It enables men to ſuppreſs their paſſions from conſiderations of intereſt; teaches them to refer every thing to private advantage; and to conſider magnanimity as a dangerous and arrogant virtue. It is to this ſpirit, that we muſt aſcribe the great extent of commerce, in all the civilized parts of the world; and that Europe is much richer, though leſs wiſe than of old. The ſpirit of meekneſs by gradually ſuppreſſing the noble ardour of ancient heroiſm, and withdrawing the attention from abſtract inveſtigations, as daring and preſumptuous, has given birth to innumerable diſcoveries in the arts, unknown to the ſpeculative genius of antiquity. Hence the luxuries of life have received an immenſe improvement; and the ſpirit of meekneſs though not calculated to ſoar, has wandered over the ſurface of the earth, and diffuſed its *humble* bleſſings even to the remote regions of the poles. Penetrating and ſmooth, it has crept like oil, through the communities of mankind; and increaſed the activity, by lubricating the joints of the flexible body of Commerce. As oil too allays the fury of the ſea, and calms its agitated waves; ſo meekneſs ſuppreſſes the effervescence of deſire, reſtrains the reſtleſs ſpirit of enquiry, and calms the impetuoſity of genius. Hence though we are no longer ſurpriſed with the daring exploits, and prodigious talents which diſtinguiſhed the ancient world, yet we can boaſt a greater uniformity of character, a more general equality in moderate attainments, and a more intereſted ſpirit. In conſequence of this univerſal mediocrity, our

capacity

capacity for commerce is increaſed, and our abilities enlarged, for accumulating wealth by groveling purſuits. But the moſt important advantage acquired by the ſpirit of meekneſs, is that mentioned by the great apoſtle of the Gentiles, "of becoming all things to all men." The benefits indeed which ſuch a pliability of temper confers on a commercial kingdom, compoſe ſo great a part of the arcana of traffic, that revelation alone could have made mankind ſenſible of their importance. Meekneſs like Proteus aſſumes every poſſible appearance which the intereſt of concealment may require; and philoſophy alone can trace it, through its multiform ſhapes, and vanquiſh its transforming power.

But though we excel the ancients in the virtue of meekneſs, and its attendant arts, we are infinitely below them in the cultivation of intellectual philoſophy. By the invention of the microſcope and teleſcope, we have indeed diſcovered the ſtructure of the ſubtile parts of body, and beheld ſtars inviſible to the ancient world. Hence our knowledge of particulars has received, and is continually receiving an immenſe increaſe: but we forget that particulars are infinite, and that while they produce the fleeting fabric of opinion, they are incapable of forming the ſteady and permanent baſis of ſcience. The doctrine of cauſes, was the object of ancient inveſtigation: the enumeration of effects is the buſy employment of the moderns. Experimental inquiries have enabled the philoſopher of the preſent day to ſolve partial phænomena, and to deceive the importunities of doubt by the intervention of ſecondary cauſes. However, arguments derived from the modifications of matter, can only ſatisfy ſuperficial enquirers; and will be indignantly rejected, by the profound and contemplative genius. So far from deriving any illumination by accumulated experiments, the profeſſors of this philoſophy confeſs their ignorance of principles; and neglect their inveſtigation under the ſpecious pretext of declining hypotheſes. On the contrary the philoſophers of antiquity impelled by intellectual dignity and ſtrength, aſcended to principles, as the pillars of the univerſe, and the ſources of conviction and repoſe. Hence they gloried in aſſerting and vindicating the capacious powers of the ſoul: and by ſevere inveſtigation, experienced the ſerene ſplendours of knowledge, and baniſhed the anxieties of doubt. The intellectual philoſophy refines the morals while it enlightens the mind, and improves the heart while it exalts the powers of imagination and thought. On the contrary the mechanical philoſophy produces oppoſite conſequences, by introducing the darkneſs of ignorance, and debaſing the energies of the ſoul.

But there cannot I think be a more egregious inſtance of the barren ſtate of philoſophy at preſent, than the prevailing opinion that the moſt valuable knowledge is derived from common life, and the general conduct of mankind. The manners of the multitude, ſo far from affording any really valuable information, exhibit nothing but ſpecimens of folly and vice, aſtoniſhingly various, and differently combined. A knowledge of this kind may indeed be neceſſary to the man who wiſhes to accumulate wealth, and acquire popular honours; but is infinitely remote from the poſſeſſion of true wiſdom, and the

true cultivation of human underſtanding. The beſt, as well as the moſt exalted knowledge, is as we have already proved *, that which is deſirable for its own ſake; which confers felicity on its poſſeſſor, and gives a final reſpite to the arduous labour of mental inveſtigation. The knowledge of common things, is alone the province of common, or uncultivated minds; and men of great genius in every age, have been diſtinguiſhed by their happy ignorance of the trifling purſuits, and empty attainments of the vulgar. Indeed he who mixes much with the multitude, neceſſarily imbibes falſe opinions and engages in puerile occupations: the ſtrength and activity of his mind, is continually weakened, or unworthily exerted, by a general diffuſion; and he at length loſes all that intellectual energy, which nature firſt implants, but retirement calls forth into the bloſſoms of elegance, and the perfection of vigor.

The late Dr. Johnſon is a ſtriking inſtance of the truth of theſe obſervations; and a laſting example of the wretchedneſs of a mind unenlightened by philoſophy. His talents were indeed vaſt and uncommon, but degraded by falſe cultivation and ruined through neglect. Hence he employed himſelf ſolely on ſubjects of vulgar ſpeculation and thought deeply on nothing but the vices and follies of the illiterate and the baſe. Like a giant in the dark, his ſtrokes were indeed powerful, but often ineffectual; and were never directed by the hand of wiſdom, or aſſiſted by the irradiations of truth. Thus he conſtantly diſplayed ſtrength without ſkill, and exertion without knowledge, abilities without genius, and grandeur without a grace. He appears to reſemble indeed nothing ſo much as the eyeleſs Polypheme. Deprived of the cheering light of ſcience and philoſophy, he wandered in the caverns of ſenſe, wretched through the want of ſight, and avoided by the timid multitude who trembled at his ſtrength. To approach him too near was generally deſtructive of the order of ſociety, and often fatal to the peace of bold but ignorant individuals.

His piety too as well as his literary talents ſhews how little of felicity is to be expected where philoſophy is wanting. For though he profeſſed to believe in the immortality of the ſoul, he was a perpetual ſlave to the dread of death: and though he was continually exerciſed in the externals of religion, he could find no conſolation when alone. There is nothing indeed whoſe certainty is ſo generally admitted in diſcourſe as the ſoul's immortality; and yet nothing at preſent is ſo generally diſbelieved. For I will not diſgrace the word belief, by ſuppoſing it poſſible that a man can be firmly aſſured of this important truth, and yet continually ſeek for arguments in defence of its reality. This is however the caſe with modern believers. They profeſs reverence for the deciſions, and faith in the doctrines of revelation; but are glad to ſeek for conviction in the arguments of philoſophy. Faith is found ſufficient to ſupport the mind, while it reclines on the boſom of the church, or clings round the pillars of orthodox opinion.

* Vol. I. Sect. 4.

But

But when it is once ſhaken by enquiry and ſtaggered by doubt; when it leaves the enchanted encloſure of faith, and ventures on the wide ocean of enquiry; it can alone find ſecurity in the harbour of reaſon, and reſt in the embraces of philoſophy.

Dr. Johnſon is however celebrated by his female biographer as "a man good beyond the imitation of mortals." As if goodneſs could ever reſide in a ſoul perpetually harraſſed with fears, and agitated with paſſion; diſtracted with the proſpects of futurity, and afraid of retiring into itſelf. Is it not ridiculous to ſuppoſe that a conſciouſneſs of virtue and worth can ever be combined with miſery and fear; or that the ſteady and ſerene light of truth can ever dwell enſhrined in the gloom of deſpondence, or beam through a mind diſturbed and clouded with care? "The good man ſays Plotinus is ever tranquil and ſerene, undiſturbed by paſſion, and ſuperior to grief:" and that religion is but of little worth, which confers on its votary nothing but the torments of anxiety from conſciouſneſs of inward folly or vice; and the dread of diſſolution from the uncertainty of its reſult. We may reſt aſſured that no one can be truly worthy who is wretched in himſelf: for to be truly good is to reſemble the divinity: and to ſuppoſe that miſery can be combined with ſuch a character, is to aſcribe imperfection to deity, and unhappineſs to the fountain of good. For the exemplar cannot be contrary to its image, though it may be infinitely ſuperior in excellence and dignity of nature.

And thus much for a hiſtory of the reſtoration of the Platonic theology by the latter Platoniſts. I only add, that I am in no reſpect a debtor to the gratitude of the public: for my writings hitherto, have neither been attentively ſtudied, nor liberally received. Solely influenced by the love of truth, I have endeavoured to diſſeminate the wiſdom of Greece, and to draw aſide the myſtic veil of recondite theology: but experience has convinced me that the period of philoſophy is paſt; and that ſome fortunate revolution can alone reſtore its fallen honours, and eſtabliſh its original ſway. Should the preſent work ſurvive the literary wreck, which will probably precede the revival of philoſophy, I ſhall conſider myſelf amply rewarded for the toil of its execution: and I am not aſhamed of owning, that the pleaſing hopes of ſuch an event have inſpired me with the patience and vigour requiſite to ſo laborious an undertaking. In ſhort whatever may be its immediate or future ſucceſs, my views have been liberal in the publication, and my mental advantages conſiderable from the ſtudy of ancient philoſophy. Amidſt the various ſtorms of a life diſtinguiſhed by outrage and diſeaſe, it has been a never-failing ſupport, and an inviolable retreat. It has ſmoothed the brow of care, and diſpelled the gloom of deſpondence; ſweetned the bitterneſs of grief, and lulled agony to reſt. After reaping ſuch valuable advantages from its acquiſition, I am already rewarded, though my labours ſhould be unnoticed by the preſent and future generation. The lyre of true philoſophy is no leſs tuneful in the deſert than in the city; and he who knows how to call forth its latent harmony in ſolitude, will not want the teſtimony of the multitude to convince him that its melody is extatic and divine.

ELEMENT

ELEMENTS OF THEOLOGY*.

ON THE ONE.

PROPOSITION I.

All multitude participates in a certain reſpect of *the one*.

FOR if it in no reſpect participates of *the one*, neither will the whole be one whole, nor each of the many from which the multitude is compoſed: but each of theſe will alſo be multitude, and this will be the caſe in infinitum; and each of theſe infinites will again be infinite multitude. For if it in no reſpect participates of *the one*, neither according to its whole ſelf, nor according to each of its parts, every where, and throughout there will be infinite multitude. For each of theſe *manys*, which

* I have already mentioned this admirable work, with the praiſe it ſo juſtly deſerves, in my account of the life and writings of Proclus. (Vol. I. of this work, p. 38.) I now add, with great pleaſure that I have been no leſs fortunate with reſpect to the tranſlation of theſe Elements than in tranſlating the commentaries of Proclus. For the Greek text, is very frequently defective in parts eſſential to the meaning; and conſequently neceſſary to the perfection of the whole. This defect I have been able to ſupply from a Latin verſion of Patricius (Ferrar. 1583) who appears to have had a perfect manuſcript in his poſſeſſion. But notwithſtanding this aſſiſtance, I muſt freely own, that I never tranſlated any thing which required ſo much intenſe thought, and ſevere labour in its execution. This indeed muſt neceſſarily be the caſe, if the abſtruſeneſs of the ſubject, the difficultly of finding proper terms, and the defects of the original, are properly conſidered. But the learned reader may be experimentally convinced of the truth of this aſſertion, if he only compares the Greek text with the Latin verſion of Æmilius Portus; in which I am ſorry to ſay, he will ſcarcely find one propoſition, in which Portus has not miſtaken the ſenſe of his author. Indeed were I diſpoſed to entertain the critical reader, I might ſwell the volume with copious notes from the blunders of Portus; and diſplay the ſuperiority of my own verſion by contraſting the Engliſh with the Latin. But I conſider verboſe criticiſms of this kind as both uſeleſs and pedantic; as remote from the philoſophical genius; and as alone calculated to fill up the leiſure hours of men, who have ruined their underſtandings in the ſtudy of words. The genuine Platoniſt who may be ignorant of Greek, will I perſuade

which ever you aſſume, will either be *one* or *not one*, will either be multitude or nothing. But if each of theſe manys be nothing, that which is compoſed from them ſhall alſo be nothing. But if each be many, then each ſhall conſiſt from infinite infinites. But theſe conſequencies are impoſſible. Since no being is compoſed from infinite infinities *. For there is nothing greater than infinite. But that which is conſtituted from all is greater than each particular. Nor can any thing be compoſed from nothing. All multitude therefore participates in a certain reſpect of *the one*.

PROPOSITION II.

Every thing which participates of the one, is both *one* and *not one*.

FOR if it be not *the one itſelf* (αὐτοὲν) (ſince it participates *of the one*) becauſe it is ſomething different from *the one*, it ſuffers *the one*, by participation, and ſuſtains itſelf to become one. If then it be nothing elſe beſides *the one*, it is one alone, and does not participate of the one, but is *the one itſelf*. But if it be ſomething different from *the one*, which is not *the one*, but its participant, it is both *not one* and *one*, not indeed the ſelf-ſubſiſting *one*, but *one being*, as participating of the *one itſelf*. This then is neither *one*, nor does it ſubſiſt as *the one*, but it is *one being*, at the ſame time participating of *the one*; and on this account, ſince it is not the ſelf-ſubſiſting one, it is both *one* and *not one*, becauſe it is ſomething different from *the one*. For ſo far as it abounds it is *not one*; but ſo far as it is paſſive from participation, it becomes *one*. Every thing therefore which participates of one, is both *one*, and *not one*.

ſuade myſelf, rejoice to ſee this invaluable treaſure in his native tongue: and thoſe who have been led to conſider the theology of the heathens as deluſion, and abſurdity, will doubtleſs be ſurprized to find, that it is replete with the ſublimeſt knowledge, and the moſt important truths. Yet I muſt admoniſh the reader, that theſe Elements cannot be underſtood by any one, who is not a thorough adept in the preceding Commentaries on Euclid: for the propoſitions relate to the moſt abſtract ſubjects that can be conceived; and the demonſtrations are uncommonly ſubtle and profound. Indeed if opportunity permitted, I ſhould attempt a commentary on every propoſition: but this if ever I ſhould be able to accompliſh it, muſt be reſerved for ſome more auſpicious period. In the mean time I hope that my occaſional elucidations, will be acceptable to the Platonic reader, and aſſiſt him in the ſtudy of this ineſtimable work. I only add, that theſe Elements form an admirable introduction to the ſix books of Proclus on Plato's theology.

* The abſurdity of this conſequence conſiſts in this, that from the hypotheſis of unity being excluded, infinite infinites would ſubſiſt ſeparate from each other, without any bond of conciliating unity; which is evidently impoſſible. For though every line contains infinite infinites in *capacity*, becauſe the ſmalleſt part of every line is capable of infinite diviſion; yet theſe infinites in capacity are connected by the power of unity, and form one finite line.

PROPOSITION III.

Every thing which becomes one, becomes ſo through the participation of one; and is one, ſo far as it ſuffers the participation of one.

FOR if things which are not one, become one, it muſt be by a conjunction, and communication with each other: and they will ſuſtain the preſence of one, without being *one itſelf*. Hence they will participate one, ſo far as they ſuffer themſelves to become one. For if they are already one, they will not become one: ſince that which is, does not become that which it already is. But if they are formed from non-one, and privation, they will in the firſt place poſſeſs one, from ſome *one*, being ingenerated in their nature.

PROPOSITION IV.

Every thing united, is different from the *one itſelf*.

FOR if it is united it will participate of one, ſo far as it is called united. And that which participates of one is both one, and non-one. But *one itſelf*, is by no means one and non-one. For if this alſo was both one and non-one, the one which it contains will alſo poſſeſs both, and this in infinitum; ſince there is no *one itſelf* in which the proceſſion can ſtop; but every thing will be both one and non-one. That which is united therefore is ſomething different from one. For if that which is united was the ſame with one, one would be infinite multitude; and in like manner each of the parts from which the united nature is compoſed.

PROPOSITION V.

All multitude is poſterior to the one itſelf.

FOR if multitude is prior to the one, the one indeed will participate of multitude, but the multitude which is prior to the one, will not participate of the one: ſince it is multitude prior to the ſubſiſtence of the one. For it cannot participate that which is not: becauſe that which participates of the one, is both one and non-one. But the one does not yet ſubſiſt, ſince multitude is the firſt. It is however impoſſible, that there

ſhould be any multitude, which in no reſpect participates of the one. Multitude therefore is not prior to the one. But if multitude ſubſiſts together with the one, it will be of the ſame order with the one: for time cannot hinder ſuch a conjunction. Hence neither the one can be eſſentially many, nor multitude one, becauſe they are at the ſame time contra-diſtinguiſhed; ſince neither is prior, or poſterior to the other. Multitude therefore will not be eſſentially one, and every thing it contains will be a non-one, and this in infinitum, which is impoſſible. Hence it naturally participates of the one, nor can any part of it be aſſumed which is not one: for if any part is not one, it will be an infinite compoſed from infinites, as we have demonſtrated. And hence it entirely participates of the one. But if the one which is one itſelf, in no reſpect participates of multitude, multitude will be perfectly poſterior to the one; participating indeed of the one, but not participated by the one. But if the one ſhould participate of multitude in ſuch a manner as to exiſt as one according to ſubſiſtence, but as not one according to participation; the one itſelf will be multiplied, in the ſame manner as multitude is united by the one. Hence the one will communicate with multitude, and multitude with the one. But things which coaleſce, and communicate after a manner with each other, if they are congregated by ſomething elſe, that ſomething muſt have a prior exiſtence. But if they connect themſelves, they are not oppoſed to each other: for oppoſites do not haſten to a mutual conjunction. But if the one, and multitude have a contrary diviſion, and multitude, ſo far as multitude, is not one, and the one ſo far as one, is not multitude; hence the one cannot ſubſiſt in the other: for they would be at the ſame time both one and two. But if there be any thing prior to the one, and multitude which collects them into one, this will either be one, or non-one. And if non-one, it will either be many, or nothing. But it is not many; leſt multitude ſhould be prior to the one. Nor is it nothing: for how can that congregate which is nothing? Hence it is the one alone. For this one is not alſo many, leſt we ſhould advance in an infinite progreſſion. It is therefore the one itſelf; and all multitude proceeds from the one.

CONCERNING UNITY.

PROPOSITION VI.

Every multitude is either compoſed from things united, or from unities.

FOR that every one of things many is not multitude alone, is evident; and it is likewiſe clear that each part of this multitude again, is not multitude alone. But if it be not multitude alone, it is either united, or unities. And indeed if it participates of unity it is united: but if it be compoſed from things primarily united, it is unities. For

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f there be one itſelf, there is alſo that which primarily participates the one, and is primarily united. But this is compoſed from unities. For if it is compoſed from things united, theſe are again united from certain others, and this will take place in infinitum. But it is requiſite that a nature which is primarily united, ſhould be compoſed from unities. And thus we have diſcovered what we propoſed in the beginning.

Concerning PRODUCING CAUSES, and THINGS PRODUCED.

PROPOSITION VII.

Every thing productive of another, is more excellent than the nature of the thing produced.

FOR it is either more excellent, or worſe, or equal. Let it be in the firſt place, equal. That which is produced from this therefore, will itſelf alſo, either poſſeſs a power productive of ſome other, or it will be entirely barren. But if it be barren, it will on this account be worſe than its producing cauſe: and becauſe of its inefficacy, it will be unequal to that which is prolific, and poſſeſſes a productive power. But if it be productive of other natures, it will either produce that which is equal to itſelf (and this will be the caſe in all things, and all beings will be equal to each other, and nothing will be more excellent than another, ſince the productive nature, always conſtitutes the thing produced equal to itſelf), or that which is unequal. But in this caſe, it will not be equal to its producing cauſe: for it is the property of equal powers to fabricate equal effects. But the productions of theſe are unequal to each other, ſince on this hypotheſis the producing cauſe, is equal to that which is prior to itſelf, but that which is poſterior is unequal to it. It is requiſite, therefore, that the thing produced ſhould not be equal to its producing cauſe.

But neither can the producing cauſe be ever worſe than the thing produced. For if the producing cauſe, confers eſſence on the thing produced, it beſtows power alſo, according to eſſence. And if it is productive of all the power which that poſterior to itſelf poſſeſſes, it can alſo make itſelf ſuch as its production. But if it can do this, it will alſo make itſelf more powerful: for impotence cannot hinder, ſince a fabricative power is preſent, nor a defect of will: for all things naturally deſire good. Hence if it can form any thing elſe more perfect, it will alſo perfect itſelf, before it perfects that which is poſterior to itſelf. The thing produced, therefore, is neither equal to, no more excellent than its producing cauſe: and hence the producing cauſe is entirely more excellent than the nature of the thing produced.

On the FIRST GOOD, which is called THE GOOD ITSELF.

PROPOSITION VIII.

The firſt good which is no other than good itſelf, precedes all the participants of good.

FOR if all beings deſire good, it is evident that the firſt good is above beings. For if he is the ſame with any one being, either being is the ſame with the good, and ſo this particular being, will no longer be deſirous of good, ſince it is the good itſelf; for that which deſires any thing, is indigent of that which it deſires, and by its deſire is different and foreign: or being and the good are different; and the good, will indeed participate of being, and being of the good. It is, therefore, a particular good reſident in ſome particular participant, but not good ſimple and univerſal, and which all beings deſire: for this is the common object of deſire to all beings. But that which is generated in another, participates alone of that, in which it is generated. The firſt good therefore is nothing beſides good. For if you add any thing elſe, by addition you diminiſh the good itſelf; effecting a particular good, inſtead of good ſimple and univerſal. For that which is added, ſince it is not good itſelf, but ſomething leſs, diminiſhes by its eſſence the good itſelf.

Concerning that which is SUFFICIENT TO ITSELF.

PROPOSITION IX.

Every thing ſufficient to itſelf, either according to eſſence, or according to energy, is more excellent than that which is inſufficient, and the cauſe of whoſe perfection depends on another cauſe.

FOR if all beings, naturally deſire good, and one thing ſupplies itſelf with good, but another is indigent of ſomething elſe; the former, will indeed have the cauſe of good preſent, but the latter ſeparate and apart. By how much the nearer, therefore, that is which affords the object of deſire, by ſo much the more excellent will it be than that which requires a ſeparate cauſe, and externally receives the perfection of its being or energy. Beſides, that which is ſufficient, is both ſimilar and diminiſhed, and more ſimilar to the good itſelf. It is diminiſhed, becauſe it participates good, and becauſe it is not the firſt good. Yet it is in ſome reſpect allied to the good, becauſe it can poſſeſs good from itſelf. But that which participates, and participates through another, is more diſtant from the firſt good, which is nothing elſe than good.

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PROPOSITION X.

Every thing sufficient to itself is worse than that which is simply good.

FOR what is that which is sufficient, than that which from itself, and in itself, possesses good? But this is now full of good, which also it participates: but it is not the simply good. For that, as has been demonstrated, is more excellent than the participation and repletion of good. If then that which is sufficient fills itself with good, that from which it fills itself will be more excellent than that which is sufficient, and will be superior to sufficiency: for that which is simply good is not indigent of any thing. For it does not desire any other; since by desire it would be imperfect; and thus would be full of good, and not the first good.

CONCERNING CAUSE.

PROPOSITION XI.

All beings proceed from one first cause.

FOR either there is no cause of beings, or the causes of all terminated beings revolve in a circle, or there is an infinite ascent of causes; so that one thing is the cause of another, and the prior subsistence (ὑπόστασις) of essence, no where stops its progression. But if there be no cause of beings, neither will there be an order of things found and first; of the perfecting, and perfect; of the adorning, and adorned; of the generating, and generated; of the active and passive: nor will there be any science of beings. For the knowledge of causes is the employment of science: and we then assert that we know, when we know the causes of beings. But if causes revolve in a circle, the same causes will be both prior and posterior, more powerful and more debile. For every thing which produces is more excellent than the nature of the thing produced. But there is no difference, whether we conjoin the cause with the thing caused by many, or fewer mediums, and place the thing caused as subordinate. For the cause is more excellent than all the intervening natures of which it is the cause: and by how much the greater the number of mediums, by so much the more is it a cause. But if there be an addition of causes in infinitum, and one always proceeds from another, on this hypothesis likewise science cannot subsist: for there is no knowledge of infinites. But causes being unknown, neither can there be any science of things

things ſubſequent to cauſes. If, therefore, it is requiſite that there ſhould be a cauſe of beings, and cauſes are diſtinct from things cauſed, and there can be no infinite aſcent; there will be a firſt cauſe of beings, from which as a root particulars proceed, ſome of which exiſt in propinquity, and others at a diſtance from his nature. For that it is neceſſary there ſhould be one principle, is demonſtrated; becauſe all multitude is ſecondary to the one.

PROPOSITION XII.

The principle and firſt cauſe of all beings is the good.

FOR if all things proceed from one cauſe, it is requiſite to call that cauſe, either the good, or more excellent than the good. But if it be more excellent than the good, we aſk whether *any thing* emanates from this cauſe into beings, and into the nature of beings, or *nothing?* And indeed if nothing, it will be abſurd: for we cannot, on this hypotheſis, any longer preſerve it in the order of a cauſe; ſince it is every where requiſite that ſomething ſhould be preſent from the cauſe to the things cauſed, and eſpecially from the firſt cauſe, from which all things depend, and through which every being exiſts. But if there is a participation of this firſt cauſe in beings, in the ſame manner as there is of the good, there will be ſomething more excellent than goodneſs, penetrating into beings from the firſt cauſe. For ſince it is more excellent, and ſuperior to the good, it cannot beſtow on ſecondary natures any thing worſe than the benefits diſtributed by that which is poſterior to itſelf. But what can be more excellent than goodneſs itſelf? Since we apply the term *more excellent* to that which participates more of the good. If then that which is non-good, is not more excellent, it muſt be poſterior to the good. But if, likewiſe, all beings deſire good, how can any thing be prior to this cauſe? For if good alſo deſires, how can it be good in the moſt eminent degree? But if it does not deſire, muſt not all beings deſire that cauſe of all, from which they proceed? And if it is the good itſelf, from which all beings depend, the good muſt be the principle and firſt cauſe of all.

PROPOSITION XIII.

Every Good is endued with a power of uniting its participants, and every union is good; and *the good itſelf*, is the ſame with *the one*.

FOR if the good itſelf is the preſerver of all beings, and on this account is deſirable by all, but the one itſelf, preſerves and contains the eſſence of each: (for all things

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are preſerved by the one, and diſperſion removes every thing from eſſence) hence the good cauſes thoſe things to be one, to which it is preſent, and contains them by union. But if the one is endued with a congregating and containing power, it perfects every being by its preſence: and hence it is good to all things to be united. But if union is eſſentially good, and good is unific (or unifying), the ſimply good, and the ſimply one is the ſame: at the ſame time uniting, and benefiting beings. Hence it is, that things which in a certain reſpect fall from good, are alſo deprived of the participation of one: and that things which are deſtitute of the one, becauſe they are replete with ſeparation, are after the ſame manner likewiſe deprived of good.

COROLLARY.

Hence both goodneſs is union, and union is goodneſs; and the good is the one, and the one is the firſt good.

Concerning an IMMOVEABLE, and SELF-MOTIVE PRINCIPLE or CAUSE.

PROPOSITION XIV.

Every being is either immoveable, or moved; and if moved, it is either moved by itſelf, or by another.

IN the firſt place if it is moved by itſelf, it is ſelf-motive, but if by another, it is alter-motive (ἑτεροκινητον.) Every being therefore, is either immoveable, or ſelf-motive, or alter-motive. For it is neceſſary, that ſince there are alter-motive natures, there ſhould be ſomething immoveable, and between theſe, a ſelf-motive nature. For if every thing alter-motive, when in motion is moved by another, motions are either performed in a circle, or in infinitum. But they can neither ſubſiſt in a circle, nor in infinitum, ſince all beings are terminated by a principle, and the motive nature, is more excellent than the thing moved. Something immoveable therefore will be the firſt mover. But if this be the caſe, it is neceſſary that there ſhould be ſomething ſelf-motive. For ſhould all things ſtand ſtill, what will that be which is firſt moved? It cannot be the immoveable itſelf, for motion is not natural to this. Nor the alter-motive, for it is moved by another. It remains therefore that the ſelf-motive, muſt be that which is firſt moved; ſince it is this which unites the alter-motive to the immoveable, exiſting as a medium, moving, and at the ſame time moved. For of thoſe, the one moves alone, and the other is alone moved. Every being therefore, is either immoveable, or ſelf-motive, or alter-motive.

COROLLARY.

From hence alſo it is evident, that of things which are moved, a ſelf-motive nature is the firſt, but of things motive, an immoveable nature.

Concerning an INCORPOREAL ESSENCE, and its PROPERTIES.

PROPOSITION XV.

Every thing which is converted to itſelf, is incorporeal.

FOR no body is naturally adapted to be converted to itſelf. For if that which is converted to any thing, is conjoined to that to which it is converted, it is evident that all the parts of a body muſt be conjoined with all the parts of that which is converted to itſelf: ſince ſelf-converſion then takes place, when that which is converted becomes one with that to which it is converted. But this is impoſſible in body, and in all partible natures. For the whole of that which is partible, is not conjoined with the whole, on account of the ſeparation of the parts which are differently ſituated. No body therefore is naturally adapted to ſelf-converſion, ſo that the whole may be converted to the whole. And hence whatever is ſelf-convertive is incorporeal and impartible.

PROPOSITION XVI.

Every thing which is converted to itſelf, has an eſſence ſeparate from all body.

FOR if it be inſeparable from any body, it will not poſſeſs ſome action ſeparable from body. For if eſſence is inſeparable from body, it is impoſſible that an eſſential energy ſhould be ſeparable: ſince in this caſe energy would be more excellent than eſſence; becauſe the latter would be indigent of bodies, but the former would be ſufficient to itſelf, without requiring the aſſiſtance of body. If then any thing be inſeparable according to eſſence, it muſt be ſo likewiſe according to energy, or indeed more inſeparable. But if this be the caſe, it is not converted to itſelf. For that which is converted to itſelf, as it is different from body, has an energy ſeparate from body, neither ſubſiſting through body, nor in conjunction with its nature: ſince action, and that to which action is directed, is not indigent of body. Hence that which is converted to itſelf, is entirely ſeparable from bodies.

PROPOSITION XVII.

Every thing which moves itſelf primarily, is endued with a ſelf-convertive power.

FOR if it moves itſelf its motive energy alſo is reſident in its nature, and the thing moving is at the ſame time one with the thing moved. For either it moves with a part, but is moved in a part, or the contrary. But if one part is motive, and another part

part is moved, it will not be eſſentially ſelf-motive, becauſe it will ſubſiſt from non-ſelf-motive natures; and it will appear indeed ſelf-motive, but will not be ſo eſſentially. But if the whole moves, and a part is moved, or the contrary, there will be ſome part in each, which, according to one, will be at the ſame time both moving and moved *: and this will be primarily ſelf-motive. But if one and the ſame moves and is moved, it will poſſeſs with itſelf the energy of moving, becauſe it is ſelf-motive; but it will be converted to that in which it energiſes. Every thing therefore primarily ſelf-motive is converted to itſelf.

PROPOSITION XVIII.

Every thing which ſupplies being to others, is that primarily which it beſtows on the things ſupplied.

FOR if it gives being, it procures the communication from its own eſſence. But that which it gives is worſe than its own eſſence: and that which it is, is more excellent and perfect. For every artificer of any thing, is more excellent than the nature of the thing fabricated: and hence that which pre-exiſts in the donor, is more ſublime than the gift; for the one is primary, but the other ſecondary and ſubordinate. For it is neceſſary, either that both ſhould be the ſame, and that there ſhould be one reaſon of both; or that nothing ſhould be common, or the ſame in both; or that this ſhould be firſt, but that the ſecond. But if there be, one and the ſame reaſon, or definition, the one will no longer be cauſe, and the other effect; nor this in itſelf, but that in the thing given; nor will this be the efficient, but that the effect. But if they have nothing the ſame, the remainder will not ſubſiſt, in conſequence of the exiſtence of the other, becauſe it will communicate nothing to its being. It remains therefore, that this which beſtows is firſt; but that which is beſtowed is ſecond; among which the being of the one is ſupplied from the other.

PROPOSITION XIX.

Every thing which is primarily inherent in any of the natures among beings, is preſent to all the beings diſtributed according to that nature, in one reaſon, and after the ſame manner.

FOR if it be not preſent to all after the ſame manner, but to theſe, and not to thoſe; it is evident that it will not be primarily inherent in that nature. But it will be preſent with ſome primarily, and in others which participate ſometimes but not always,

* Becauſe, ſince the whole is motive, the part which is moved will alſo be motive, and ſo will be at the ſame time both moving and moved. And if a part moves, and the whole is moved; then becauſe of the motion of the whole, the part will be both moving and moved.

Concerning an INCORPOREAL ESSENCE, and its PROPERTIES.

PROPOSITION XV.

Every thing which is converted to itſelf, is incorporeal.

FOR no body is naturally adapted to be converted to itſelf. For if that which is converted to any thing, is conjoined to that to which it is converted, it is evident that all the parts of a body muſt be conjoined with all the parts of that which is converted to itſelf: ſince ſelf-converſion then takes place, when that which is converted becomes one with that to which it is converted. But this is impoſſible in body, and in all partible natures. For the whole of that which is partible, is not conjoined with the whole, on account of the ſeparation of the parts which are differently ſituated. No body therefore is naturally adapted to ſelf-converſion, ſo that the whole may be converted to the whole. And hence whatever is ſelf-convertive is incorporeal and impartible.

PROPOSITION XVI.

Every thing which is converted to itſelf, has an eſſence ſeparate from all body.

FOR if it be inſeparable from any body, it will not poſſeſs ſome action ſeparable from body. For if eſſence is inſeparable from body, it is impoſſible that an eſſential energy ſhould be ſeparable: ſince in this caſe energy would be more excellent than eſſence; becauſe the latter would be indigent of bodies, but the former would be ſufficient to itſelf, without requiring the aſſiſtance of body. If then any thing be inſeparable according to eſſence, it muſt be ſo likewiſe according to energy, or indeed more inſeparable. But if this be the caſe, it is not converted to itſelf. For that which is converted to itſelf, as it is different from body, has an energy ſeparate from body, neither ſubſiſting through body, nor in conjunction with its nature: ſince action, and that to which action is directed, is not indigent of body. Hence that which is converted to itſelf, is entirely ſeparable from bodies.

PROPOSITION XVII.

Every thing which moves itſelf primarily, is endued with a ſelf-convertive power.

FOR if it moves itſelf its motive energy alſo is reſident in its nature, and the thing moving is at the ſame time one with the thing moved. For either it moves with a part, but is moved in a part, or the contrary. But if one part is motive, and another part

part is moved, it will not be eſſentially ſelf-motive, becauſe it will ſubſiſt from non-ſelf-motive natures: and it will appear indeed ſelf-motive, but will not be ſo eſſentially. But if the whole moves, and a part is moved, or the contrary, there will be ſome part in each, which, according to one, will be at the ſame time both moving and moved *: and this will be primarily ſelf-motive. But if one and the ſame moves and is moved, it will poſſeſs with itſelf the energy of moving, becauſe it is ſelf-motive; but it will be converted to that in which it energiſes. Every thing therefore primarily ſelf-motive is converted to itſelf.

PROPOSITION XVIII.

Every thing which ſupplies being to others, is that primarily which it beſtows on the things ſupplied.

FOR if it gives being, it procures the communication from its own eſſence. But that which it gives is worſe than its own eſſence: and that which it is, is more excellent and perfect. For every artificer of any thing, is more excellent than the nature of the thing fabricated: and hence that which pre-exiſts in the donor, is more ſublime than the gift; for the one is primary, but the other ſecondary and ſubordinate. For it is neceſſary, either that both ſhould be the ſame, and that there ſhould be one reaſon of both; or that nothing ſhould be common, or the ſame in both; or that this ſhould be firſt, but that the ſecond. But if there be, one and the ſame reaſon, or definition, the one will no longer be cauſe, and the other effect; nor this in itſelf, but that in the thing given; nor will this be the efficient, but that the effect. But if they have nothing the ſame, the remainder will not ſubſiſt, in conſequence of the exiſtence of the other, becauſe it will communicate nothing to its being. It remains therefore, that this which beſtows is firſt; but that which is beſtowed is ſecond; among which the being of the one is ſupplied from the other.

PROPOSITION XIX.

Every thing which is primarily inherent in any of the natures among beings, is preſent to all the beings diſtributed according to that nature, in one reaſon, and after the ſame manner.

FOR if it be not preſent to all after the ſame manner, but to theſe, and not to thoſe; it is evident that it will not be primarily inherent in that nature. But it will be preſent with ſome primarily, and in others which participate ſometimes but not always,

* Becauſe, ſince the whole is motive, the part which is moved will alſo be motive, and ſo will be at the ſame time both moving and moved. And if a part moves, and the whole is moved; then becauſe of the motion of the whole, the part will be both moving and moved.

ſecondarily. For that which ſometimes ſubſiſts, and ſometimes not, does not exiſt primarily, nor eſſentially, but is adventitious, and extrinſically accedes to the natures in which it reſides.

Concerning the GRADATION OF BEINGS.

PROPOSITION XX.

The eſſence of ſoul is ſuperior to all bodies; and an intellectual nature is ſuperior to all ſouls: and the one itſelf is ſuperior to all intellectual eſſences.

FOR every body is moved by another, but is naturally incapable of moving itſelf. But it is moved by itſelf, through the participation of ſoul: it likewiſe lives through ſoul, and by means of its preſence, is after a manner ſelf-motive; but when ſoul is abſent it is alter-motive; becauſe it is eſſentially endued with this nature, but ſoul is allotted a ſelf-motive eſſence. For it imparts ſelf-mobility to whatever it ſupervenes. But ſoul is much prior to that which it eſſentially imparts. It is therefore above bodies, as a ſelf-motive eſſence: ſince theſe become ſelf-motive through participation. Again, ſoul which is moved from itſelf, has the ſecond order from an immoveable nature, exiſting immoveable in energy; becauſe a ſelf-motive nature precedes all things that are moved, but an immoveable eſſence, all moving natures. If therefore ſoul which is ſelf-motive, moves others, it is requiſite that an immoveable mover, ſhould be prior to ſoul. But intellect moves, exiſting immoveable, and always energiſing according to the ſame. For ſoul participates through intellect of eternal intelligence; in the ſame manner as body participates through ſoul of a ſelf-motive nature. For if eternal intelligence, was primarily reſident in ſoul, it would be inherent in all ſouls; in the ſame manner as a ſelf-motive nature. And hence this is not primarily inherent in ſoul. It is therefore requiſite, that a firſt-intellective nature ſhould be prior to ſoul. Intellect therefore is prior to ſouls. But the one is prior to intellect. For intellect though immoveable, is not the one: ſince it underſtands, and energiſes about itſelf. But all beings of whatever kind, participate of the one, but all do not participate of intellect. For it is neceſſary that thoſe natures ſhould participate of knowledge, to whom a portion of intellect is preſent; becauſe intellectual cognition, is the principle, and firſt cauſe of knowledge. Hence the one is ſuperior to intellect; nor is there any thing ſuperior to the one: for the one is the ſame with the good. But the good is the principle of all things, as we have demonſtrated.

That

That INTELLECT is not the FIRST CAUSE.

PROPOSITION XXI.

Every order beginning from unity proceeds into ſome multitude co-ordinate to unity: and multitude of every order is reduced to one unity.

FOR unity poſſeſſing the relation of a principle, generates a multitude proper to itſelf. Hence one ſeries, and one univerſal order deſcends from unity into multitude. For there would neither be any order, nor ſeries, if unity was eſſentially barren. But multitude is again reduced into one common cauſe of all co-ordinates. For that which is the ſame in every multitude, does not proceed from one of the things which multitude contains: ſince that which emanates from one out of many, is not common to all, but is alone peculiar to the property of that one. Since therefore according to every order, there is both a certain communion, coherence, and identity, on account of which *theſe* are ſaid to be co-ordinate, and *thoſe* of another order, it is evident that the ſameneſs of every order proceeds from one principle *. There is therefore in every order an unity prior to multitude, affording one reaſon, and ſeries to the things ordered in itſelf, as well with reſpect to each other, as likewiſe to the whole. For admitting that among things contained under the ſame ſeries, one thing is the cauſe of another, yet it is neceſſary that before all things, there ſhould be a cauſe that the ſeries is one, and that from it all things ſhould be generated as co-ordinates; not that every thing may be a particular ſomething, but may exiſt of this particular order.

* The truth of this may be exemplified in light. Thus for inſtance we ſee many ſpecies of light; one kind emanating from the ſun, another from fire and the ſtars, another from the moon, and another from the eyes of many animals. But this light though various, is every where ſimilar, and diſcovers in its operations a unity of nature. On account of its uniformity therefore it requires one principle, and not different principles. But the ſun is the only principle of all mundane light. And though there are many participants of light poſterior to the ſolar orb, yet they ſcatter their uniform light, through one ſolar nature, property and power. But if we again ſeek for the principle of light in the ſun, we cannot ſay that the ſolar orb is the principle of light: for the various parts of this orb diffuſe many illuminations. There will therefore be many principles. But we now require one firſt principle of light. And if we ſay that the ſoul of the ſun generates light, we muſt obſerve that this is not effected by her animal multiplicity, or ſhe would diffuſe different lights: and hence we muſt aſſert that ſhe generates viſible by intellectual light. But this production again, does not ſubſiſt through intellectual variety, but rather by a unity of intellect: and this unity is a ſymbol of that ſimple unity which is the principle of the univerſe. And to this principle the ſolar intellect is united by its unity; and through this it becomes a god. This divine unity of the ſun, therefore, is the principle of the uniform light of the world; in the ſame manner as ſimple unity and goodneſs is the author of intelligible light to all intelligible natures.

COROL.

COROLLARY.

From hence it is evident that both one and multitude, is inherent in the nature of body, and that one nature has many coherent natures, and that many natures depend on the one nature of the univerſe. And this property belongs to the order of ſouls, to begin from one firſt ſoul, and to deſcend into a multitude of ſouls, and to reduce multitude into one. And to an intellectual eſſence it is peculiar to poſſeſs an intellectual unity, and a multitude of intellects proceeding from one intellect, and intimately converted to its nature. And to the one prior to all things, a multitude of unities is preſent, and to unities themſelves a return to the one. Hence after the firſt one, unities * ſubſiſts; intellects after the firſt intellect; ſouls after the firſt ſoul; and natures after univerſal nature.

PROPOSITION XXII.

Every thing which ſubſiſts primarily, and according to the nature of a principle, is in every order one; and is neither two, nor more than two, but is univerſally ſelf-begotten.

FOR if poſſible let it be two; ſince the ſame abſurdity will enſue ſhould more than two be admitted. Then if it be two, it is either that which is compoſed from both unities; and in this caſe the firſt will be one and not two: or it is each of the unities. But in this caſe, either one of each, and not both, will be the firſt; or both will be equally the firſt. But if equally, neither of them will be the firſt: for if the one is firſt, but this one is not the ſame with the other, what order will it poſſeſs? For that ſubſiſts primarily, which is nothing elſe than what it is denominated. But each of theſe being different, the one from the other, each at the ſame time is, and is not that which it is ſaid to be. But if theſe differ from each other, yet not with reſpect to that which is called firſt (for this primarily ſuffers identity), both will not be firſt, but that through the participation of which, both are ſaid to be firſt.

COROLLARY.

From hence it is evident that the firſt being is one alone, and that there are not two, or more firſt beings. And that the firſt intellect is one alone, but that there are not two

* This will be evident by conſidering that *the one*, or the firſt principle of all, muſt produce that which firſt proceeds from himſelf, by *union* (καθ' ἕνωσιν.) And as his firſt production muſt be the moſt ſimilar of all things to himſelf, and muſt be at the ſame time multitude (or in what reſpect would it differ from the one); hence it is neceſſary, that this progreſſion muſt be no other than ſelf-perfect unities. In conſequence therefore of this ſublime doctrine, as Proclus beautifully obſerves (Theol. Plat. p. 123.) there is one god, and many gods; one unity, and many unities prior to beings: and one goodneſs, and many goodneſſes after this firſt good. It likewiſe follows that the firſt principle of all is a ſuper-eſſential one; and that after this one, there are many ſuper-eſſential unities. And we may conſider every unity of beings, as the flower of ſome certain being; and as the ſummit and centre about which every being ſubſiſts. For a farther account and confirmation of this ſublime doctrine, ſtudy the third book of Proclus on Plato's Theology.

firſt

firſt intellects. And that the firſt ſoul is one; and in every particular ſpecies, the ſame concluſion will reſult: as for inſtance the firſt beautiful, firſt equal, and ſimilarly in all the reſt. In like manner there is the ſame demonſtration, with reſpect to one firſt form of animal and man.

Concerning the imparticipable * (or that which is without participation), and that which participates.

PROPOSITION XXIII.

Every imparticipable produces from itſelf participants, and all participated hypoſtaſes, or ſubſiſtencies, are reduced to imparticipable eſſences.

FOR an imparticipable poſſeſſing the relation of unity, as depending on itſelf, and not on another, and as ſeparated from participants, generates things able to participate. For either it remains in itſelf barren, and poſſeſſes nothing honourable; or it gives ſomething from itſelf. And that which receives from this imparticipable participates, and that which is given ſubſiſts in a participated manner. But every thing participating of another by which it is generated, is poſterior to that nature which is ſimilarly preſent to al things, and which fills all things from itſelf. For that which ſubſiſts in one thing is not in others: and that which is ſimilarly preſent to all things, that it may illuſtrate all, is not in one thing, but before all. For it either ſubſiſts in all, or in one of all, or before all. But that which ſubſiſts in all, becauſe diſtributed into all, again requires another, which may unite its divided nature: and all things will no longer participate of the ſame, but this will participate one thing, and that another, if the one is diſtributed into many. But if it ſubſiſts in one of all, it will no longer be common to all, but to one. If therefore it is common to things capable of participating powers, and is likewiſe common to all, it will be prior to all things. But this is imparticipable.

* By *imparticipable*, in theſe Elements, we muſt underſtand that which participates nothing belonging to the characteriſtic of its nature, and which is likewiſe participated through proper mediums by all ſubordinate natures. Thus for inſtance *imparticipable being*, is that which participates nothing of *being*, but is the ſource of *being*, to others: and at the ſame time it is not participated without a medium by ſubordinate eſſences; ſince the participation of being, in ſubordinate natures, is accompliſhed through the immediate progeny of *being itſelf*. And ſo of the reſt. Nor ought it to ſeem wonderful that an imparticipable ſhould preſide over every ſeries of cauſes: for this is a neceſſary conſequence, if we conſider that every cauſe muſt be that to its following progeny, which the firſt cauſe of all, is to the univerſality of things. But the firſt cauſe of all is perfectly imparticipable; ſince he would not be purely *the one*, if he was mingled with *many*, and received the condition of a ſubordinate nature. As the divine unities therefore are participated by all the following orders of things, and are the mediums, by which every being is conjoined with the firſt cauſe of all; ſo the immediate progeny of every primary cauſe conjoins all the ſubſequent progreſſions with that cauſe, which from its ſimilarity to *the firſt* is properly denominated an imparticipable.

PROPO-

PROPOSITION XXIV.

Every participant is inferior to that which it participates, and that which is participated is ſubordinate to an imparticipable.

FOR the participant being imperfect prior to participation, but becoming perfect through participation, is entirely poſterior to that which it participates; ſo far as it is perfect through participation. For ſo far as it was imperfect, it is inferior to that which it participates and which is the cauſe of its perfection. But that which is participated becauſe common to ſome one, and not to all, is on this account allotted a ſubſiſtence inferior to that which is common to all, and not to ſome particular one: for the latter is more allied, but the former, leſs, to the cauſe of all things. Hence an imparticipable, precedes things participated; and theſe laſt precede participants. And in ſhort that which is imparticipable is one prior to many; that which is participated is one in many; and every participant is at the ſame time non-one, and one.

CONCERNING THE PERFECT.

PROPOSITION XXV.

Every thing perfect proceeds to the procreation of ſuch offspring as it is able to produce, imitating the one principle of the univerſe.

FOR as the principle of the univerſe, on account of his goodneſs is uniformly conſtitutive of all beings (for the good is the ſame with the one, and on this account that which is endued with the form of good, is the ſame with that which is uniform); ſo things poſterior to the principle, on account of their proper perfection haſten to generate other things ſubordinate to their own eſſence: and this perfection is a certain portion of the good; and the perfect ſo far as perfect imitates the good. But this is conſtitutive of all things. Hence the perfect alſo is naturally productive of things within its power; and that which is more perfect, by how much the more perfect it is, by ſo much the more is it the cauſe of more numerous productions: for that which is more perfect, participates more of the good. But this is nearer to the good, is more allied to the cauſe of the univerſe, and is the cauſe of more numerous productions. But the imperfect, by how much the more imperfect it is, by ſo much the more is it the cauſe of leſs numerous effects: for exiſting more remote from the producer of all things, it becomes the cauſe of fewer effects. For to conſtitute and adorn, or perfect, or contain,

or

or vivify, or fabricate all things, and to effect each of theſe in many, is allied to the principle of all. But if this is accompliſhed in a few it, becomes more foreign from the principle.

COROLLARY.

From hence it is evident that matter which is moſt diſtant from the principle of the univerſe, is barren, and the cauſe of nothing. For if it ſhould generate any thing, it would have ſomething poſterior to itſelf, and it would not be the moſt remote. But that which it produces, would be more diſtant than itſelf, and becauſe it produces and imitates the productive cauſe of all beings, it would be nearer to the principle of the univerſe.

CONCERNING THAT WHICH PRODUCES.

PROPOSITION XXVI.

Every cauſe productive of other things, abiding in itſelf produces natures poſterior and ſubſequent to itſelf.

FOR if it imitates the one itſelf, but that immoveably generates natures poſterior to itſelf, hence every productive nature will in a ſimilar manner poſſeſs the cauſe of producing. But that the one itſelf immoveable generates, is evident from hence. For if he generates through motion, either motion will be reſident or non-reſident in his nature, and that which is moved will be no longer one; becauſe it will be changed and moved from one. Hence the one will either produce in infinitum *, or immoveably. And every producing nature will imitate the one productive cauſe of the univerſe. For from that which is firſt, that which is not firſt every where emanates. And hence from that which is productive of all things, that which is productive of ſome things will proceed. Every producing cauſe, therefore, produces ſubſequent natures, abiding in itſelf: and while productive natures abide in themſelves undiminiſhed, ſecondary natures are produced from them. For that which is in any reſpect diminiſhed, cannot abide ſuch as it is.

* Becauſe if the one generates through motion, an infinite motion muſt take place, through the want of an immoveable nature.

PROPOSITION XXVII.

Every producing nature, on account of its perfection, and abundance of power is productive of ſecondary natures.

FOR if it produces, not on account of its perfection, but through a defect of power, it cannot preſerve its own proper order immovable. For that which affords being to another, through its defect and imbecillity, confers on it eſſence by a mutation and alteration of itſelf: but every producing nature abides ſuch as it is, and while it abides, that which is poſterior to itſelf proceeds into being. Hence exiſting full and perfect, it procreates ſecondary natures immovably, and without diminution: at the ſame time exiſting ſuch as it is, neither changing itſelf into its progeny, nor diminiſhing its nature. For the thing produced is not a diſſection of the parts of the producing cauſe: ſince this is neither proper to generated natures, nor to generating cauſes. Nor is it a tranſition; ſince it is not the matter of that which proceeds to generation. For the producing cauſe abides ſuch as it is, and the production is different from itſelf. That which generates therefore abides without alteration, and without diminution, multiplying itſelf through its prolific power, and ſupplying from itſelf ſecondary ſubſiſtencies.

PROPOSITION XXVIII.

Every producing nature generates things ſimilar to itſelf, prior to ſuch as are diſſimilar.

FOR ſince the producing cauſe is neceſſarily more excellent than the thing produced, theſe can never be mutually the ſame ſimply conſidered, or equal according to power. But if they are not the ſame and equal, but different and unequal; they are either entirely ſeparated from each other, or they are both united and ſeparate. But if they are entirely ſeparate, they cannot be conciliated with each other, and the thing produced will not ſympathize with its cauſe. Hence the one will not participate of the other, becauſe they are entirely different. For that which is participated, imparts a communication to its participant, with reſpect to that of which it participates. But it is neceſſary that the thing cauſed ſhould participate of the cauſe, as that from which its eſſence is derived. But if that which is produced is in one reſpect ſeparated, and in another united to its producing cauſe; if it equally ſuffers both, it equally participates and does not participate of its producing cauſe. It will therefore both poſſeſs and not

poſſeſs an eſſence from it, after the ſame manner. But if it ſhould be more ſeparated, the thing generated will be more foreign from its generating cauſe than is proper, and will be to itſelf more inelegant than elegant, and more deprived than endued with ſympathy of nature. If then generated natures, are both allied according to eſſence, and in ſympathy with their cauſes, naturally depending upon, and deſiring a contact with them, purſuing good and obtaining the object of deſire through cauſe, it is evident that things produced are more united with their producing cauſes than ſeparated from them. And things which are more united are more ſimilar than diſſimilar to the natures with which they are eſpecially united. Every productive cauſe therefore generates things ſimilar prior to ſuch as are diſſimilar.

PROPOSITION XXIX.

Every progreſſion is accompliſhed by a ſimilitude of things ſecondary to ſuch as are firſt.

FOR if a producing cauſe generates ſimilars prior to diſſimilars, ſimilitude generates things produced from their producing cauſes. For ſimilars become ſimilar through ſimilitude, and not through diſſimilitude. If, therefore, progreſſion in its diminution preſerves the identity of the thing generated to its generator, and exhibits that which is poſterior to itſelf ſecondarily, ſuch as itſelf is primarily, it will poſſeſs its eſſence through ſimilitude.

PROPOSITION XXX.

Every thing immediately produced from another, both abides in its producing cauſe, and proceeds from it.

FOR if every progreſſion is effected while things firſt abide, and is perfected through ſimilitude, things ſimilar ſubſiſting prior to the diſſimilar, the thing produced will abide in a certain reſpect in its producing cauſe: ſince that which has entirely proceeded from its cauſe, poſſeſſes nothing the ſame with that which abides, but is perfectly ſeparated. But if it poſſeſſes any thing in common, and united with its abiding cauſe, it will alſo abide in its cauſe, in the ſame manner as that abides in itſelf. But if it abides only without proceeding, it differs nothing from its cauſe, nor will it while that abides, be effected ſomething different: for if it is ſomething elſe, it will be diſtinct and ſeparate. But if ſeparate, and its cauſe abides, it proceeds from its cauſe that it may be ſeparated from its abiding generator. So far, therefore, as the thing produced poſſeſſes any thing

the ſame with its producing cauſe, it abides in this cauſe: but ſo far as it poſſeſſes ſome thing different, it proceeds from its cauſe. But on account of its ſimilitude, it is at the ſame time in a certain reſpect both the ſame with, and different from its producing cauſe. It abides therefore, and at the ſame time proceeds with its cauſe, and neither is ſeparate from the other.

PROPOSITION XXXI.

Every thing proceeding from another eſſentially, is converted to that from which it proceeds.

FOR if it ſhould indeed proceed, without being converted to the cauſe of its progreſſion, it will not deſire this cauſe: ſince every deſiderative nature (τὸ ἐφετόμενον) is converted to the object of its deſire. But every being deſires good; and its acquiſition takes place through a cauſe proximate to particulars. Hence particulars deſire their cauſe. For well-being is diſtributed to any particular being, through the ſame cauſe as being itſelf. But deſire is primarily directed to that cauſe from which well-being proceeds: and converſion is directed to that, to which deſire primarily tends.

PROPOSITION XXXII.

Every converſion is effected by a ſimilitude of the converted natures to the object of their converſion.

FOR every thing converting itſelf to another, haſtens to conjoin itſelf with the object of its converſion, and deſires its communion and conjunction. But ſimilitude collects all things, in the ſame manner as diſſimilitude ſeparates and divides. Converſion therefore is a certain communion and contact. But every communion and every contact is cauſed by ſimilitude. And hence every converſion is effected by ſimilitude.

PROPOSITION XXXIII.

* Every thing proceeding from, and returning to another, has a circular energy.

FOR if it is converted to that from which it proceeds, it conjoins the beginning with the end. And there is one and a continued motion: this commencing from, and

* In order to underſtand this propoſition the reader muſt obſerve that the hypotheſis requires that both the progreſſion and regreſſion ſubſiſt together. And this hypotheſis is no leſs proper than true; for unleſs effects were continually converted to their cauſes, they could not exiſt; ſince they depend on theſe for their ſubſiſtence, and this can only be procured by converſion.

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that proceeding to the abiding nature. Hence all things proceed circularly, from cauſes th cauſes. But theſe circles of regreſſion are greater and leſs: ſince ſome converſions proceed to things proximately placed above them, but others to things more ſupetior, and ſo on to the principle of all. For all things proceed from this, and to this finally return.

PROPOSITION XXXIV.

Every thing which is naturally converted, converts itſelf to that from which it derives the progreſſion of its peculiar ſubſiſtence.

FOR if it is naturally converted, it poſſeſſes an eſſential deſire towards that to which it is converted, and it directs all its being towards that to which it makes an eſſential converſion. And it is alſo eſſentially ſimilar to the object of its converſion; and on this account is in ſympathy with it according to nature, becauſe allied to it by eſſence. But if this be the caſe; either the eſſence of both is the ſame; or the one proceeds from the other; or both derive their ſimilitude from ſome other one. But if the eſſence of both is the ſame, how can the one be naturally converted to the other? And if both proceed from one; both will be naturally converted to this one. It remains therefore that the one muſt derive its eſſence from the other. But if this be the caſe, progreſſion alſo muſt originate from that to which there is a converſion according to nature.

COROLLARY.

From hence it is evident that intellect is the object of deſire to all things: that all things proceed from intellect; and that the whole world, though eternal, derives its eſſence from intellect. For it is not becauſe eternal excluded from proceeding from intellect. Nor is it becauſe eſtabliſhed in perpetual order, excluded from converſion. But it both perpetually advances and is eternal according to eſſence; and it is perpetually converted and indiſſoluble according to its invariable order.

PROPOSITION XXXV.

Every thing cauſed (or produced by a cauſe), both abides in its cauſe, proceeds from, and is converted to it.

FOR if it alone abides, it will differ in nothing from its cauſe; from which it will be indiſtinct. For progreſſion ſubſiſts together with diſtinction. But if it alone proceeds, it will be unconjoined with its cauſe, and in no reſpect communi-

cate with it according to a ſympathetic affection. But if it is alone converted, how can that which does not derive its eſſence from its cauſe, be naturally converted to that which is foreign from its nature? But if it abides and proceeds, and is not converted, how can the natural deſire of every thing to well-being, and to good, and an excitation to its generator, ariſe? But if it proceeds indeed, and is converted, but does not abide, how, ſince it is diſtant from its cauſe, can it haſten to be conjoined with it? Since it would be unconjoined prior to its departure. For if it was conjoined, according to this conjunction it would entirely abide. But if it ſhould abide and be converted, but ſhould not proceed, how, ſince not ſeparated, can it be converted? For every thing returning to its cauſe, in the act of returning is aſſimilated to that from which it is eſſentially divided. But it is neceſſary that the thing cauſed, ſhould either alone abide, or be alone converted, or alone proceed; or that the extremes ſhould be conjoined with each other; or that the medium between theſe, ſhould be united with each extreme; or that all theſe ſhould take place together. It remains, therefore, that every thing cauſed muſt abide in, proceed from, and be converted to its cauſe.

PROPOSITION XXXVI.

Of all things which are multiplied in progreſſion, ſuch as are firſt are more perfect than ſuch as are ſecond, and ſuch as are ſecond than thoſe of a poſterior order, and ſo on in continual ſucceſſion.

FOR if progreſſions diſtinguiſh things produced from their cauſes, and are the ſubordinations of ſecondary natures to ſuch as are firſt; firſt progreſſions will be more conjoined with their cauſes, from which they are produced, and of which they may be conſidered as the bloſſoms. But ſecondary progreſſions are more remote from their cauſes; and this will be the caſe in a continual ſucceſſion. But things nearer, and more allied to their cauſes, are more perfect: for cauſes are more perfect than things cauſed. But ſuch as are more remote are more imperfect, becauſe on this account diſſimilar to their cauſes.

PROPOSITION XXXVII.

Of all things which ſubſiſt according to converſion, the firſt are more imperfect than the ſecond; and the ſecond than thoſe in ſucceſſion. But the laſt are the moſt perfect.

FOR if converſions are produced in a circle, and converſion tends to that from which the progreſſion began; but progreſſion is from the moſt perfect, converſion alſo will tend to the moſt perfect. And if that to which progreſſion tends is the laſt, the firſt converſion

converſion will originate from this. But progreſſion to the laſt is the moſt imperfect; and converſion commences from the moſt imperfect. In things, therefore, ſubſiſting according to converſion, the firſt are the moſt imperfect, but the laſt the moſt perfect.

PROPOSITION XXXVIII.

Every thing proceeding from a certain number of cauſes, is converted to them by the ſame number as it proceeds from them; and every converſion ſubſiſts through the ſame cauſe as progreſſion.

FOR ſince both are produced through ſimilitude, that which immediately proceeds from any cauſe, is immediately converted to it: for the ſimilitude was immediate. But that which requires a medium in its progreſſion, requires alſo a medium in its converſion. For it is requiſite that both progreſſion and converſion ſhould ſubſiſt about the ſame. It will, therefore, be firſt converted to the medium, and afterwards to that which is more excellent than the medium. Hence well-being is diſtributed to every thing through the ſame number of cauſes as being; and the contrary of this is likewiſe true.

PROPOSITION XXXIX.

Every being is either alone eſſentially converted, or vitally, or according to a gnoſtic mode (γνωσικῶς).

FOR it either poſſeſſes being alone from its cauſe, or life together with being, or it receives from thence a gnoſtic power. So far, therefore, as it is *being* alone, it makes an eſſential converſion. But ſo far as it likewiſe *lives*, a vital converſion. And ſo far as it *knows*, a gnoſtic converſion. For according to its progreſſion, ſuch is its converſion; and the meaſures of its converſion are defined by the meaſures of its progreſſion. Hence ſome are endued with deſire according to being alone; this deſire being adapted to the participation of cauſes. But others according to life; and this vital deſire is a motion to more excellent natures. And others according to cognition, which deſire is a perception of the goodneſs of cauſes.

PROPOSITION XL.

Self-ſubſiſtent natures antecede all things proceeding from another cauſe.

FOR if every thing ſufficient, is more excellent, either according to eſſence, or according to energy, than that which depends on another cauſe, but that which produces itſelf, becauſe productive of its own being, is ſufficient to itſelf. But that which

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is alone produced from another is not ſufficient. Likewiſe ſince that which is ſufficient is more allied to good; and things more allied and ſimilar to cauſes, ſubſiſt from cauſe prior to diſſimilars: hence things ſelf-productive, and ſelf-ſubſiſtent, are more ancient, than ſuch as proceed to being from another alone. For either nothing is ſelf-ſubſiſtent; or the good itſelf is ſuch; or things which are the firſt ſubſiſtents from the good. But if nothing is ſelf-ſubſiſtent, there will not be a true ſufficiency in any thing. For this cannot reſide in the good, ſince that is more excellent than ſufficiency, ſubſiſting as the one; and being *the good*, but not poſſeſſing good. But neither on this hypotheſis can ſufficiency reſide in natures poſterior to the good. For all things will be indigent of that which is prior to their nature. But if the good is ſelf-ſubſiſtent, becauſe it produces itſelf, it will not be one. For that which proceeds from one, is not one: and it will proceed from itſelf, if it ſubſiſts by itſelf. And hence the one itſelf will be at the ſame time one, and not one. It is neceſſary, therefore, that a ſelf-ſubſiſtent nature ſhould be poſterior to the firſt: and it is evident, that it muſt likewiſe be prior to things alone proceeding from another cauſe. For it is more principal than theſe, and, as we have demonſtrated, is more allied to the good.

PROPOSITION XLI.

Every thing reſiding in another is alone produced by another. But every thing reſiding in itſelf, is ſelf-ſubſiſtent.

FOR that which abides in another, and is indigent of a ſubject, can never be generative of itſelf. For that which naturally generates itſelf, does not require a foreign ſeat, ſince it is contained by itſelf, and is preſerved in itſelf ſeparate from a ſuperior. But that which is capable of abiding, and of being eſtabliſhed in itſelf, is productive of itſelf: ſince it proceeds into itſelf, and contains its own nature; and abides in itſelf; as a thing cauſed in its cauſe. For it does not abide as in place, nor as in a ſubject. For place is different from that which ſubſiſts in place, and that which reſides in a ſubject is different from its ſubject. But this is the ſame with itſelf. For it is ſelf-ſubſiſtent, and abides in itſelf, as the thing cauſed in its cauſe.

PROPOSITION XLII.

Every thing ſelf-ſubſiſtent is converted to itſelf.

FOR if it proceeds from itſelf, it will alſo return to itſelf. For that which is the ſource of progreſſion to particulars, is likewiſe the end of a converſion coordinate to the progreſſion. For if it ſhould alone proceed from itſelf, but ſhould not

not be converted by a progreſſion into itſelf, it will never deſire its own proper good, and that which it is able to afford itſelf. But every cauſe is capable of conferring on its progeny, together with the eſſence it affords, well-being, which is conjoined to the eſſence which it diſtributes. Hence it can confer this on itſelf. And, therefore, this is the proper good of a ſelf-ſubſiſtent nature. But this, according to the hypotheſis, will not be deſired by that which is converted to itſelf: and becauſe it does not deſire this, neither will it purſue it; and in conſequence of not purſuing, it will be imperfect and inſufficient. But if ſufficiency and perfection belong to any thing, they muſt be proper to a ſelf-ſubſiſtent nature. And hence it will purſue and deſire its own proper good, and will be converted to itſelf.

PROPOSITION XLIII.

Every thing converted to itſelf, is ſelf-ſubſiſtent.

FOR if it be naturally converted to itſelf, and is perfect in its ſelf-converſion, it will alſo poſſeſs eſſence from itſelf. For that to which converſion according to nature tends; from this alſo the eſſential progreſſion of every thing proceeds. If, therefore, it affords to itſelf *well-being*, it will alſo indeed afford to itſelf *being*; and it will be the lord of its own ſubſiſtence. Hence that which is capable of being converted to itſelf, is ſelf-ſubſiſtent.

PROPOSITION XLIV.

Every thing converted to itſelf according to energy, is alſo converted to itſelf according to eſſence.

FOR if it can be converted to itſelf according to energy, but is not converted eſſentially, it will be more excellent according to energy than according to eſſence; ſince the former is convertible, and not the latter. For that which depends on itſelf, is more excellent than that which depends on another. And that which preſerves itſelf, is more perfect than that which is only preſerved by another. If, therefore, it is converted to itſelf, according to that energy which proceeds from eſſence, it will likewiſe be allotted a convertive eſſence; ſo that it will not only energize to itſelf, but will likewiſe depend on itſelf, and will be contained and perfected by itſelf.

PROPOSITION XLV.

Every thing ſelf-ſubſiſtent is without generation.

FOR if it be generated, becauſe generated it will be eſſentially imperfect, and indigent of that perfection which proceeds from another. But becauſe it produces itſelf, it is perfect and ſufficient. For every thing generated is perfected by another, which brings it into exiſtence from a non-exiſtent ſtate. Since generation is the paſſage from that which is imperfect to its contrary, the perfect. But if any thing produces itſelf, it is always perfect; becauſe it always coheres to its own cauſe, or rather inheres in that which is perfective of its eſſence.

PROPOSITION XLVI.

Every thing ſelf-ſubſiſtent, is incorruptible.

FOR if it may be corrupted, it may deſert itſelf, and exiſt ſeparate from itſelf. But this is impoſſible. For, on account of the unity of its nature, it is at the ſame time both a cauſe and the thing cauſed. But every thing which is corrupted, is corrupted by a departure from its cauſe. For ſo far as any thing depends on that which contains and preſerves it, ſo far it is contained and preſerved. But that which is ſelf-ſubſiſtent will never deſert its cauſe, becauſe it will not deſert itſelf. For it is its own cauſe. And hence every thing ſelf-ſubſiſtent is incorruptible.

PROPOSITION XLVII.

Every thing ſelf-ſubſiſtent is impartible (i. e. without parts) and ſimple.

FOR if that which is ſelf-ſubſiſtent is partible, it will conſtitute itſelf partible, and the whole will be converted to itſelf *, and all will be in all itſelf. But this is impoſſible. Hence that which is ſelf-ſubſiſtent is impartible. But it is likewiſe ſimple. For if compoſite, it will contain both that which is excellent, and that which is baſe †; and the more excellent will proceed from the more baſe, and the more baſe from the

* This is abſurd, becauſe every partible nature muſt be converted to ſomething different from itſelf, on account of its parts. So likewiſe ſince a ſelf-ſubſiſtent nature reſides in itſelf, if ſuch a nature was partible, one diviſible whole would be in another, not different from itſelf.

† Becauſe every compoſite conſiſts of matter and form; the former of which is baſe, and the latter more excellent.

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more excellent, ſince, according to hypotheſis, the whole proceeds from the whole itſelf. Beſides it will not be ſufficient to itſelf, becauſe it requires the elements of itſelf, from which it is compoſed. Every thing therefore which is ſelf-ſubſiſtent is ſimple.

Concerning that which is Eternal, for the Purpoſe of demonſtrating the Eternity of the World.

PROPOSITION XLVIII.

Every thing not eternal, is either a compoſite, or ſubſiſts in another.

FOR it is either capable of being diſſolved into its component parts, and is entirely compoſed from the parts into which it is diſſolved; or being indigent of a ſubject, and deſerting its ſubject, it paſſes into non-entity. But if it is ſimple, and abides in itſelf, it will be indiſſoluble and incapable of diſſipation.

PROPOSITION LXIX.

Every thing ſelf-ſubſiſtent is eternal.

FOR there are two modes according to which it is neceſſary, that any thing ſhould be non-eternal. The one flows from compoſition, and the other from reſiding in a ſubject. But that which is ſelf-ſubſiſtent, is neither compound, but ſimple; nor does it abide in another, but in itſelf. And hence it is eternal.

PROPOSITION L.

Every thing which is meaſured by time is *generation*, either according to eſſence, or according to energy, ſo far as it is meaſured according to time.

FOR if it is meaſured by time, eſſence or energy, according to time, is proper to its nature. And it is likewiſe proper that the terms, *it was*, and *it will be*, ſhould be different from each other. For if *it was*, and *it will be*, were numerically the ſame, that which is meaſured by time would ſuffer nothing from time proceeding, and always having ſomething prior and poſterior. If then *it was*, and *it will be* differ from each

other, that which is meaſured by time is *in generation* (γινομενόν ἐστι) and never truly is *, but proceeds together with time, by which it is meaſured, exiſting in a ſtate of tendency

* The truth of this reaſoning may be evinced by the following conſiderations: Every thing which is meaſured by time, and ſuch is every corporeal nature, depends on time for the perfection of its being. But time is compoſed of the paſt, preſent, and future. And if we conceive that any one of theſe periods is taken away from the nature with which it is connected, that nature muſt immediately periſh. Time, therefore, is ſo eſſentially and intimately united with the natures which it meaſures, that their being, ſuch as it is, depends on the exiſtence of time. But time, as is evident, is perpetually flowing, and this in the moſt rapid manner imagination can conceive. It is evident, therefore, that the natures to which it is ſo eſſential, muſt ſubſiſt in a manner equally tranſitory and flowing. As we cannot therefore affirm with propriety of any part of time, that it *is*; ſince even before we can form the aſſertion, the preſent time is no more; ſo with reſpect to all corporeal natures (from their ſubſiſtence in time) before we can ſay that they exiſt, they loſe all identity of being. But as it appears to me this flowing, and evaneſcent nature of things exiſting in time, may be aptly illuſtrated by the following ſimilitude. Conceive a line, all whoſe parts are in a continual flux, like the waters of the moſt rapid river: and let it be diſtinguiſhed by three different colours, ſo profoundly mingled with each other, that every part of the line may poſſeſs theſe colours, in the ſame manner as the whole line. Now a line of this kind, will very properly repreſent time, diſtinguiſhed by paſt, preſent, and future, to which the three colours correſpond. If then we conceive another line moving on this coloured line, with an equable uniform motion, correſponding to the motion of the parts of the coloured line, and ſo that in every inſtant of its motion it may be tinged with one of theſe colours in regular ſucceſſion; we ſhall ſee the condition of a nature whoſe being is meaſured by the progreſſions of time. For as the perpendicular line, in its uniform motion, no ſooner aſſumes one colour, than it deſerts it for another, and cannot on this account be ſaid to poſſeſs any colour; ſo every corporeal nature, from its being profoundly mingled with the fleeting and unreal eſſence of time, cannot be ſaid to poſſeſs any true and ſubſtantial being.

Such then is the unreal condition of every thing ſubſiſting in time, or of every thing corporeal, and entangled with matter. But this ſhadowy eſſence of body is finely demonſtrated by Plotinus in the ſixth book of his third Ennead, as follows: "Being (ſays he) properly ſo called is neither body, nor is ſubject to corporeal affections: but body, and its properties, belong to the region of non-entity. But you will aſk, how is it poſſible, that viſible matter, ſhould poſſeſs no real being: that matter, in which ſtones and mountains reſide, the ſolid earth, and bodies which mutually reſiſt; ſince bodies which impel each other, confeſs by their colliſion, the reality of their exiſtence? You will likewiſe aſk after what manner things which neither ſtrike againſt, nor reſiſt each other; which neither externally act, nor internally ſuffer, nor are in any reſpect the objects of ſight, viz. ſoul and intellect, are to be reckoned true and real beings? We reply, that, on the contrary, things more corpulent are more ſluggiſh and inert, as is evident in bulky maſſes of earth: but whatever is leſs ponderous is more movable and alert; and the more elevated the more movable. Hence fire, the moſt movable of all the elements, flies in a manner from a corporeal nature. Beſides, as it appears to me, whatever is more ſufficient to itſelf, diſturbs others leſs, and brings leſs inconvenience: but ſuch things as are more ponderous and terrene, unable, from their defect of being, to raiſe themſelves aloft, and becoming debile and languid, ſtrike and oppreſs ſurrounding bodies, by their falling ruin and ſluggiſh weight. Since it is evident, that bodies deſtitute of life, fall with moleſtation on any proximate ſubſtance, and more vehemently impel and pain whatever is endued with ſenſe. On the contrary, animated beings, as participating more of entity, by how much the more of being they poſſeſs, by ſo much the more harmleſs they impinge on their neighbouring bodies. Hence motion, which is a kind of life, or ſoul, or an imitation of life in bodies, is more preſent with whatever is leſs corpulent; as if more of body was neceſſarily produced where a defect of being happens in a greater degree. Again, it will more manifeſtly appear from paſſivity, that whatever is more corpulent is more paſſive; earth in a greater degree than the other elements; and the reſt in a ſimilar proportion. For ſome things, when divided, ſuddenly return to their former union, when no obſtacle prevents their conjunction; but from the ſection of a terrene body, the divided portions, always remain ſeparate; as if deſtitute of natural vigour, and without any inherent deſire of union and conſent.

dency to being, or in becoming to be (*ἐν τῷ γίνεσθαι ὄν*). Nor does it ſtop in the ſame ſtate of being, but always receives different being; ſo that its *now* becomes perpetually different on account of the progreſſion of time, and prevents its exiſting totally at the ſame period of time. For it ſubſiſts in a diſperſion of temporal extenſion, and is co-extended with time. But this is no other than to poſſeſs being, in non-being. For that which is in generation, or a ſtate of becoming to be, is not generated. *Generation*, therefore, is that which ſubſiſts in a flowing exiſtence.

PROPOSITION LI.

Every thing ſelf-ſubſiſtent is exempt from things meaſured by time according to eſſence.

FOR if that which is ſelf-ſubſiſtent is without generation, it cannot be meaſured by time according to eſſence. For generation ſubſiſts about a nature meaſured by time. Hence nothing ſelf-ſubſiſtent ſubſiſts in time.

PROPOSITION LII.

Every thing eternal, is at once total.

FOR whether it only poſſeſſes an eternal eſſence, it will poſſeſs the whole at once preſent. Nor will it have one of its parts already conſtituted, but another which remains to be conſtituted, becauſe not yet in exiſtence; but as much as is poſſible it poſſeſſes the whole without diminution, and without extenſion. Or whether it poſſeſſes an energy with reſpect to eſſence, and this collected into one, and abiding in the ſame meaſure of perfection, and eſtabliſhed as it were according to one and the ſame

conſent. Hence they are ready, by every trifling impulſe, to remain as they are impelled; to ruſh from the embraces of *bound*, and haſten into multitude, and non-entity. So that whatever becomes corporeal in an eminent degree, as falling faſt into non-entity, has but little power of recalling itſelf into one. And on this account ponderous and vehement concuſſions are attended with ruin, when by mutual ruſhing one thing impels another. But when debility runs againſt debility, the one is valid againſt the other, in the ſame manner as non-entity ruſhing on non-entity. And this we think a ſufficient confutation of their opinion, who only place being in the genus of body, perſuaded by the teſtimony of impulſes and concuſſions, and the phantaſms perceived through the ſenſes, which teſtify that ſenſe is alone the ſtandard of truth. Such as theſe are affected in a manner ſimilar to thoſe in a dream, who imagine that the perceptions of ſleep are true. For ſenſe is alone the employment of the dormant ſoul: ſince as much of the ſoul as is merged in body, ſo much of it ſleeps. But true elevation, and true vigilance, is a reſurrection from and not with the dull maſs of body. For indeed a reſurrection with body, is only a tranſmigration from ſleep to ſleep, and from dream to dream, like a man paſſing in the dark from bed to bed. But that elevation is perfectly true, which entirely riſes from the dead weight of bodies: for theſe poſſeſſing a nature repugnant to ſoul, poſſeſs ſomething oppoſite to eſſence. And this is farther evident, from their generation, their continual flowing and decay; properties entirely foreign from the nature of being, ſubſtantial and real."

bound,

bound, immovably, and without progreſſion, it will ſtill poſſeſs the whole at once preſent. For if it be eternal, as its name denotes, it is a perpetual being (τὸ ἀεὶ ὄν.) But *to be* ſometimes, and to have an exiſtence in *becoming to be*, is different from that which always is. And hence it is requiſite that an eternal nature ſhould not poſſeſs any thing prior and poſterior: for in this caſe it would become generation and non-entity. But where neither prior, nor poſterior, not *it was*, and *it will be* have any ſubſiſtence, but being alone, there an eſſence at once total abides *. And every thing energizes according to its eſſence.

COROL-

* The account of eternity given by Plotinus, in which its *total* nature is copiouſly demonſtrated, is ſo inimitably ſublime and profound, that I cannot refrain from preſenting the reader with the following paraphraſed tranſlation, of the moſt conſiderable part of the ſeventh book of his third Ennead, relative to the nature of eternity. Proclus (in Theol. Plat. p. 149.) obſerves that the definition of eternity given by Plotinus in this diſcourſe, viz. "Infinite life, which at once openly exhibits itſelf, and manifeſtly declares its own being," is a definition framed *in a moſt divinely inſpired manner* (ἐνθουσιάστως.)

"Since we reckon eternity and time to be different from each other, and that the one reſpects a nature which always is, and that the other is converſant with things in generation, unſtable and flowing, from which this ſenſible univerſe is compoſed; we are apt to believe that from our natural ingenuity, and a ſudden view of intelligence, an inſtinctive knowledge concerning time and eternity, is profoundly inherent in our ſouls; ſince we always affirm the ſame properties of theſe, and never vary in the appellations we aſſign them. But when we endeavour to approach nearer to theſe, and to explain their natures in a more perfect manner, we are immediately perplexed with doubts; and receiving the different ſentiments of the ancients on this ſubject, according to the difference of our opinions, and perhaps conceiving the ſame ſentiment, in a manner different from other men, we advance no farther in our enquiries; eſteeming it ſufficient, if when interrogated, we are able to relate the opinions of antiquity on this important ſubject. Indeed it is proper to believe that ſome of the ancient, and bleſſed philoſophers, have diſcovered the truth: but it is highly neceſſary to enquire what method they purſued in their inveſtigation, and how we may arrive at the knowledge of the ſame exalted truths. And firſt, it will be proper to enquire what they think of eternity, who judge it to be different from time: ſince from the knowledge of that which is, as the exemplar, we may perhaps more plainly underſtand, the nature of its image, which is denominated time. But if any one previous to his contemplation of eternity, ſhould conceive the nature of time in his imagination, he may perhaps happen, by advancing into the intelligible world, and by a certain reminiſcence, to comprehend that to which time is aſſimilated: ſince time poſſeſſes a ſimilitude to eternity.

What then ſhall we ſay eternity is? Is it intelligible eſſence itſelf, in the ſame manner, as ſome are reported to affirm, that time is the whole heavens, and the world? For ſince we imagine and underſtand eternity to be ſomething eſpecially venerable, which we likewiſe affirm of an intelligible nature, we are not able to diſcern which of theſe is moſt venerable. And as that which is ſuperior to theſe, ought not to be deſcribed by appellations of this kind, perhaps eternity, and an intelligible nature, may with propriety be received as the ſame. Again, both eternity, and the intelligible world, comprehend in themſelves beings entirely the ſame. But when we ſay that the one abides in the other, placing intelligibles in eternity, and when we pronounce every thing intelligible eternal, as in the Timæus of Plato, where it is written, "If the nature of the exemplar is eternal, &c." in theſe caſes, I ſay, we affirm eternity to be ſomething different from an intelligible nature; at the ſame time confeſſing that eternity dwells about, or is reſident in, or is preſent with an intelligible nature. For indeed it is not neceſſary that becauſe both are venerable, they ſhould be perfectly the ſame: ſince perhaps the venerableneſs of the one, is derived from the other. And what is farther added to eſtabliſh their identity, that the ſame things are contained by each, is to be thus explained: that an intelligible nature contains every thing belonging to itſelf, as parts; but that eternity comprehends at the ſame time the whole, not as a part, but becauſe all things of this kind are called eternal, from its continual preſence. But ought we to judge of eternity according to permanent ſtation in the intelligible world, as in this ſenſible world we are accuſtomed to conſider time according to motion?

COROLLARY.

From hence it is evident that eternity is the cauſe of total exiſtence. Since every thing eternal, has either its eſſence or its energy totally preſent with itſelf, either according to eſſence, or according to energy.

PROPO-

motion? But it may be properly enquired, in the firſt place, whether eternity, is the ſame with ſtation belonging to being. For if it is the ſame with ſtation, we cannot with more propriety, ſpeak of a ſtation which is eternal, than we can of an eternal eternity: ſince that i eternal which participates of eternity. Beſides, if ſtation is the ſame with eternity, how can motion be eternal? For in this caſe, it muſt loſe its nature; and become permanent and ſtable. Beſides, how is the notion of ſtation contained in the *ever itſelf*? I do no not mean the *ever*, or *always* which reſpects time, but that which we underſtand when we ſpeak of eternity. But if the *ever itſelf*, is contained in the ſtation of being, we muſt conſequently ſegregate the other genera of beings from eternity. Beſides, it is requiſite to conceive of eternity, not in ſtation alone, but as abiding in *one*; and to preſerve its indiſtant property, leſt it ſhould become entirely the ſame with time. But ſtation, conſidered ſimply as ſtation, neither contains in itſelf the intelligence of one, nor of that which is indiſtant. Hence we predicate of eternity, that it abides in *one*: and conſequently it participates of ſtation, without being ſtation itſelf.

What then is the nature of that, by which we call the whole of the divine world eternal and perpetual? And what is perpetuity itſelf? Is it the ſame with eternity, or does eternity ſubſiſt according to the perpetual? Perhaps we ought to conceive of eternity, as a certain one collected from many; viz. either as one intelligence, or one nature; whether conſequent to things in the intelligible world, or exiſting together with it, or beheld as ſituated in the depths of its eſſence. All theſe, I ſay, reduced into eternity as one, which is alſo many, and is endued with a various capacity. Indeed he who beholds a various capacity, when he conſiders it as a ſubject, denominate it eſſence; but ſo far as he perceives life, he denominates it motion, and afterwards ſtation, conſidered as abiding in a manner entirely the ſame. He will likewiſe behold difference and ſameneſs, ſo far as they are many, bound in one. So that he who contracts the difference, ſubſiſting in things which are many, into one life alone, and contemplates an unceaſing ſameneſs of energy, never paſſing its intelligence, or life, from one thing into another, but ever abiding in the ſame manner in itſelf, far remote from all diſtance; he, I ſay, who beholds all theſe, contemplates eternity, viewing life ever poſſeſſing a preſent whole, where all things abide together in ſameneſs, without the order of firſt and laſt, and are comprehended in an indiviſible bound. Where all things are collected into one, as into a point, not yet proceeding into a linear flux, but abiding in ſameneſs, that is, in itſelf, in an ever preſent *now*: becauſe nothing of its nature is paſt, nothing in it is future; but what it is, it always is. Hence eternity is not a ſubject, but that which beams as it were from its ſubject, according to the poſſeſſion of an ever preſent identity; promiſing itſelf, that its ever abiding nature, will never be changed. For what ſhould happen to this in future, which it is not at preſent? Since it is a perfect and preſent plenitude of all things. Nor can the term *was*, the appellation of time paſt, belong to eternity. For what can that be, which *was* preſent with its nature, and *is paſt*? It is in like manner independant of all connection with futurity. And hence eternity is that which neither *was*, nor *will be*, but alone *is*, which it poſſeſſes in a ſtable manner; becauſe it is neither changed into a future, nor altered from a paſt duration. So that the eternity, which we are now inveſtigating, is life total and full, abiding in its eſſence about being; and is every where indiſtant and one.

Nor indeed is it to be thought, that eternity happens extrinſically to the firſt eſſence; but we ſhould conſider it, as dwelling in this eſſence, as emanating from, and abiding together with it. For it is beheld as profoundly reſident in its eſſence; becauſe from perceiving every thing elſe which we affirm to abide there, as perfectly intimate, we ſay that all things emanate from eſſence, and abide together with eſſence. For it is requiſite that firſt natures ſhould abide with, and reſide in firſt beings, and in theſe have the whole of their eſſence, becauſe the beautiful dwells in theſe, and emanates from them: and this alſo may be aſſerted of truth. And partly indeed the whole itſelf, is as it were in a part, but partly, as parts in the whole: as if this true nature was a whole, not congregated from parts, but itſelf generating parts, that on this account it may be truly all. Beſides, truth which flouriſhes there, is not a certain conſonance towards another, but is peculiar to every thing of which it is the truth. Indeed it is requiſite that this total truth, if total, ſhould not only be total, ſo far as it is all things, but

ſhould.

PROPOSITION LIII.

Eternity itſelf has an exiſtence prior to all eternal natures, and *time itſelf* exiſts before all temporal natures.

FOR if every where participated natures are prior to their participants, and imparticipables before ſuch as are participated, it is evident that an eternal being is different from the eternity in an eternal nature, and different from eternity itſelf. For the firſt of

ſhould likewiſe ſo poſſeſs the whole, that nothing may be wanting to itſelf. And if this is the caſe, no affection of futurity can poſſibly belong to this being: for if the circulation of time can add any thing to its eſſence, it muſt be defective till ſuch an acceſſion takes place. Beſides, nothing contrary to nature can happen to this true being; for it ſuffers nothing. So that ſince nothing is generated in it, its being is independent of all temporal connections; and hence it is neither *about to be*, nor *will be*, nor *was made*, nor is *made*. If indeed the affections of futurity are taken away from generated natures, becauſe they are converſant with perpetual acquiſition, they ceaſe to exiſt. But to things of a nature eſſentially different, the addition of any future circumſtance of being cauſes them to fall from the ſtable ſeat of eſſence. So that it is manifeſt from hence, that being itſelf could not reſide in theſe natures, if they were compoſed from the paſt, and future proceſſions of time. Since eſſence in generated natures appears to be nothing more than a certain proceſſion from *real being*, from the beginning of generation, till it arrives at the extremity of time, when it ceaſes any longer to exiſt. And that which is called the being of theſe, ſubſiſts in ſuch a manner that by diminiſhing any part of this extenſion, life is likewiſe diminiſhed: for in this manner it is neceſſary that every thing which participates of futurity ſhould exiſt. Hence it continually haſtens, by a natural deſire, to what is future, without deſiring to repoſe; ſince it continually draws freſh ſupplies of being to itſelf, while it performs one thing after another, and is moved in a certain orb of progreſſion, by its deſire of eſſence. And thus we have diſcovered the exiſtence of temporal beings, and the cauſe of their motion to eternal duration, through the aſſiſtance of futurity. But to ſuch things as are firſt, and to beings truly bleſſed, the deſire of futurity is unknown: for they are already total; and whatever of life they ought to poſſeſs, they now totally poſſeſs: ſo that they ſeek after nothing, becauſe nothing which is requiſite to the full energy and perfection of their eſſence is future, and conſequently nothing happens to them connected with futurity. The abſolute and total eſſence, therefore, of a being which is not ſeparated into parts, but is total in all its parts, and in no one circumſtance of being deficient, and to which nothing of non-entity can poſſibly happen (for it is not only requiſite that all beings ſhould be preſent with that which is univerſal, and total, but that every thing appertaining to non-entity, ſhould be always excluded) is eternity: for that is called eternal which always is."

And ſhortly after this, he adds: "Hence eternity is ſomething eſpecially venerable, and is the ſame with a god, as inherent intelligence affirms. But intelligence likewiſe dictates that eternity is the ſame with that god, whom we denominate being and life. And it may with the greateſt propriety be ſaid, that eternity is a deity ſhining and unfolding himſelf in intelligible light, ſuch as he is in his eſſence: in an eſſence, I ſay, perfectly unchangeable, and the ſame, and thus firmly abiding in an unceaſing energy of life. Nor ought any one to wonder that we ſpeak of eternity, as compoſed from many. For every thing which abides in the intelligible world, is called many, on account of its infinite power; ſince infinite there receives its denomination, becauſe it never alls off from the conſummate intellectual plenitude of its nature, And indeed it is particularly called after this manner, becauſe its loſes nothing of its own: and if any one ſhould deſcribe eternity after this manner, as life already infinite becauſe univerſal, and becauſe it never deſerts the integrity of its nature; (ſince it cannot be diminiſhed by the paſt, nor increaſed, by the future, becauſe it is a perfect whole) he who thus deſcribes eternity, will approach very near to its true definition. For what is afterwards added, that it is a perfect whole, and loſes nothing of its integrity, is only a certain expoſition of the definition which affirms it to be infinite life. But becauſe a nature of this kind, thus all-beautiful and eternal, abides about the *one itſelf*, emanating and in no reſpect departing from it, but ever abiding about and in it, and living with it, in indiſſoluble union; hence it is ſaid

by

of theſe ſubſiſts as a *participant*, the ſecond as a thing *participated*, and the third as an *imparticipable*. In like manner with reſpect to time, one thing exiſts as a *participant*, and the time which it contains, as a thing *participated*, and the time prior to this, as an *imparticipable* *. And each of theſe conſiſts from imparticipables every where, and in all things the ſame. But participated time alone exiſts in the natures by which it is participated. For there are many eternal and temporal natures, in all of which eternity abides according to participation. And ſince ſuch a time is indiviſible, there is alſo a divided time. And there is one time prior to theſe. And *eternity itſelf* is *an eternity of eternities*, but *time itſelf*, is a *time of times*; and they are ſuſtainers of participated natures.

PROPO-

by Plato, not raſhly, but in a manner truly beautiful, and profound, *that eternity abides in one*: ſo that he not only reduces that which eternity contains into one; but the life of being in like manner reduces itſelf, about *the one itſelf*. This then is what we inveſtigate, and that is eternity, which thus abides. For that which is the energy of life abiding from itſelf, and reſiding in the depths of unity, without any deception, either in eſſence or life, is without all controverſy eternity. Since truly *to be*, is never *not to be*, and to poſſeſs no diverſity of being. But when in diſcourſing on eternity, we uſe the term *ever*: alſo when we ſay, it is not ſometimes *being*, and ſometimes *non-being*, we muſt conſider theſe appellations as adopted only for the purpoſe of explanation; becauſe the term *ever* is not perhaps principally aſſumed, but is employed, in order to ſhew, an incorruptible, and never-failing nature.

But here it is proper to enquire, whether we affirm all this concerning eternity, by means of a power foreign from its nature, and as of a foreign concern? But how is this poſſible? For how can intelligence take place in the ſoul, unleſs by an intimate union of intellect with the object of its intellection? And after what manner can this profound union ſubſiſt, by an intelligence of ſuch things as are foreign from our intellectual nature? It is therefore requiſite, that we ſhould be partakers of eternity; or we could not thus define its nature, and exhibit the properties which it contains."

* The nature of *time itſelf*, which every thing in generation participates, has been a ſubject of much ſubtle and profound ſpeculation to the Pythagoric, Platonic, and Peripatetic philoſophers. According to Archytas the Pythagorean (as we are informed by Simplicius, on Ariſtotle's Categories) "time is a generative number, proceeding from the motion of the mundane ſoul, as from unity." But others of the ancients conſidered it as a certain extenſion of ſoul about intellect. Others confeſſed, that time was the period of ſoul and intellect. According to the determination of others, it is a natural extenſion about intellect. And others deſcribed time, by circulations in a circular nature; all which the Pythagoric ſect comprehends. Time, therefore, according to Archytas and the moſt ancient philoſophers, is a ſelf-moving motion, and the number of temporal unity: for as eternity abides in *one*, ſo time is moved in *number*. According to Plato, "time is a certain image flowing in number, of eternity abiding in one." But according to Ariſtotle, "it is the number, or meaſure of motion according to prior, and poſterior." But the opinion of Plotinus reſpecting time, is perhaps the moſt profound of all: and though the preceding definitions when attentively conſidered contain an abundance of intellectual truth, yet the doctrine of Plotinus on this ſubject *rekindles* a greater light in our intellectual conceptions. In his book then on eternity and time, which we have cited in the preceding propoſition, after many admirable doubts concerning the nature of time, he enters on its definition, as follows:

"But it is requiſite to recal ourſelves again to that nature which we have ſaid reſides in eternity: a nature immutable and total, and a life infinite and indeclinable, and abiding in, and about the one. But time was not as yet, or at leaſt was not among theſe true beings, but was about to follow, by a certain reaſon and nature of a poſterior energy. Supernal natures therefore acting quietly among themſelves, if any one deſires to know how time firſt fell, he will not perhaps improperly call upon the Muſes, who then were not, for the important explanation. Perhaps alſo he will opportunely invoke them, ſince the Muſes then exiſted, according to true conceptions of their nature. And perhaps ſuch a one will find time already generated, ſuch as it now is, and manifeſts itſelf to our intellectual view. But he will ſpeak concerning it after the following manner:

"Before priority originated, and was indigent of that which is poſterior, time not yet exiſting according to proceſſion,

PROPOSITION LIV.

Every *eternity* is the meaſure of eternal natures, and every *time* of temporal natures; and theſe are the only two meaſures of life and motion in beings.

FOR every thing which meaſures, either meaſures according to a part, or meaſures the whole, when it is accommodated to that which is meaſured. But that which meaſures according to the whole is eternity; and that which meaſures according to parts is time. There are therefore only two meaſures, this of eternal, and that of temporal natures.

ceſſion, repoſed together with priority in being itſelf, with a tranquil and intellectual energy. But at length time deſiring a nature engaged in a multiplicity of affairs, and anxious to govern itſelf, and become independent, and always chuſing to poſſeſs more of that which is preſent, began to be agitated, and at the ſame time commenced a flowing duration, ſubſiſting in continual ſucceſſion, and a tranſition into different periods of exiſtence. And by conceiving that from this motion, a certain longitude of proceſſion is effected, we eſtabliſh time, as an image of eternity. For ſince it is a certain reſtleſs power of the mundane ſoul, deſirous of transferring what it there beholds, into another, it cannot ſuſtain that a collected whole ſhould be at once preſent with its nature: but as the ſpermatic reaſon, unfolding itſelf from a certain quiet ſeed, acts according to an abundant diſcurſive energy; diſperſing in the mean time that which is called abundant, by a certain diviſion, and inſtead of the one which abides in itſelf, unfolding and conſuming a non-abiding one, and thus proceeding into a more debile extenſion: ſo likewiſe the nature of the mundane ſoul fabricating the ſenſible world in imitation of that which is ſuperior, and agitated with a motion, not ſuch as the intelligible world contains, but rather ſimilar to the motion which is there; with a motion I ſay affecting to repreſent its image, it renders itſelf in the firſt place temporal, as a ſubſtitute for eternity. But afterwards it endeavours to become ſubſervient to time, becauſe it compels the world to reſide in time, comprehending all its tranſitions in its forming nature. For the world is moved in this nature; ſince there is no other place for the univerſe than the mundane ſoul; and in the time of this ſoul, it is agitated without end. For this ſoul applying one energy after another in ſucceſſion, generates that which is conſequent, together with its energy, and at the ſame time proceeds with a cogitation poſterior to this energy, and which before this had no exiſtence, becauſe cogitation was not yet in energy. Its preſent life too, is now not entirely ſimilar to the preceding life: and hence together with this energy, another life ſucceeds; and in conſequence of this another time is produced. Time, therefore, is allotted a diſtance and protraction of life; and a perpetual prorogation of life, poſſeſſes a perpetual time. If any one, therefore, ſhould ſay that time is an energy of the mundane ſoul, perpetually proceeding in a certain tranſitory motion, from one life to another, he will perhaps appear to aſſert ſomething correſpondent to the truth. For if eternity is life abiding in ſtation, and in a habit ſimilar and the ſame, and already infinite; and if it is requiſite that time ſhould be the image of eternity, in the ſame manner as this univerſe is the image of the intelligible world, certainly inſtead of the life which flouriſhes there, another life muſt reſide in a certain power of the mundane ſoul, equivocal with reſpect to intelligible life; and inſtead of intellectual motion, it is requiſite that there ſhould be a motion of ſome part of the ſoul. Likewiſe inſtead of identity, and a ſimilar and abiding habit, that which does not abide in the ſame, but always purſues a different energy muſt ſucceed. And again inſtead of a property indiſtant, and one, a reſemblance of one poſſeſſing unity in a continued ſucceſſion. Beſides inſtead of that which is infinite and total, that which perpetually propagates itſelf in infinite ſucceſſion. Laſtly, inſtead of that which is a collected whole, that which ſuſtains parts, and is always about to be total and perfect. For thus it will imitate that which is total, collected, and infinite, if it wiſhes its eſſence to conſiſt in a continual purſuit of being; and thus reſembles the being of eternity itſelf. But it is requiſite not to receive time external to ſoul, in the ſame manner as eternity is not external to being itſelf. Nor again, muſt we conceive that time exiſts as an appendage, or any thing poſterior, in the ſame manner as conceptions of this kind, are not proper to eternity: but we muſt contemplate it as beheld ſeated in the receſſes of ſoul, with which it exiſts in conjunction, juſt as eternity ſubſiſts in being itſelf."

PROPO-

PROPOSITION LV.

Every thing ſubſiſting according to time, either ſubſiſts in an eternal time, or has its ſubſiſtence in ſome part of time.

FOR if all progreſſions ſubſiſt by ſimilitude, and prior to things perfectly diſſimilar, things ſimilar are more proximate to firſt natures than ſuch as are diſſimilar: and if it is impoſſible to conjoin with eternals, things formed in a part of time: (for as things generated differ from ſuch as are ſelf-ſubſiſtent, and things which have a partial, from ſuch as have a perpetual exiſtence, but the middle of theſe and thoſe, are partly ſimilar to them, and partly diſſimilar.) Hence between things which are ſometimes generated, and ſuch as are eternal, the medium muſt either be that which is always in generation, or that which is ſometimes, or that which is not truly, or does not poſſeſs true being. But it is impoſſible that the medium ſhould be that which ſometimes truly is. And that which is not true being, is the ſame with that which is ſometimes in generation. Hence the medium cannot be that which *ſometimes is*. It remains therefore that that which is always in generation, or in becoming to be, muſt be the middle of both: for on account of its paſſing, or flowing exiſtence, it is conjoined with the worſe nature, but on account of its perpetuity it imitates an eternal nature.

COROLLARY.

From hence it is evident that eternity is two-fold: for ſome things are of themſelves eternal, but others according to time. And the former of theſe, is an *abiding* eternity; but the other a *flowing* eternity, or ſuch as exiſts in becoming to be. And the former of theſe has its being united, and at once total; but the latter diffuſed, and unfolded according to temporal extenſion. And the former of theſe is eſſentially total; but the latter is compoſed from parts, each of which are ſeparated according to prior, and poſterior.

PROPOSITION LVI.

Every thing which is produced from ſecondary cauſes, is alſo produced from thoſe prior and more principal cauſes, from which ſecondary cauſes are produced.

FOR if that which is ſecondary poſſeſſes its whole eſſence from that which is prior to itſelf, its power of producing emanates alſo from thence. For productive powers reſide in producing cauſes according to eſſence, and repleniſh the eſſence of theſe. But if they are allotted a productive power from a ſuperior cauſe, they poſſeſs from this

the cauſe of being, meaſured from thence according to an hypoſtatic, or fabricative power. But if this be the caſe, the productions of this ſecondary cauſe, are cauſed on account of that which is prior to its nature: for that which perfects a cauſe perfects alſo the thing cauſed. And that the thing cauſed is more perfected from thence, is manifeſt. For if that which is firſt gives to the ſecond, the cauſe of producing, it will primarily poſſeſs this cauſe; and on this account that which is ſecond generates, receiving from thence a ſecondary generative power. But if the one becomes productive through participation, but the other by communication; on this hypotheſis likewiſe that will be the primary and more principal cauſe, which beſtows a power of generating on another proximate to its nature.

PROPOSITION LVII.

Every cauſe both energizes prior to the thing cauſed, and is productive of more effects poſterior to the things cauſed.

FOR ſo far as it is cauſe, it is more perfect and powerful than that which is poſterior to its nature. And if this be the caſe it is the cauſe of more effects. For it is the property of a greater power to produce more, of that which is equal, equal, and of that which is leſs, leſs effects. And that which in things ſimilar can effect greater things, can alſo accompliſh ſuch as are leſs. But that which can accompliſh leſs effects, cannot neceſſarily effect greater. If, therefore, the cauſe is more powerful than the thing cauſed, it is alſo productive of more effects. But whatever the thing cauſed can accompliſh, the cauſe is much more capable of effecting. For every thing which is produced from ſecondary cauſes, is much more produced from prior and more principal cauſes. Whatever, therefore, the thing cauſed is naturally adapted to produce, co-exiſts with the cauſe. But if the cauſe produces prior to the thing cauſed, it is evident that it energizes before the thing cauſed, according to its productive energy. Every cauſe therefore energizes prior to the thing cauſed; and in conjunction with, and poſterior to its nature conſtitutes other effects.

COROLLARY.

From hence it is manifeſt, that whatever is cauſed by ſoul, is alſo cauſed by intellect, but whatever is cauſed by intellect, is not alſo cauſed by ſoul. For intellect energizes prior to ſoul; and whatever the ſoul confers on ſecondary natures, intellect alſo confers in a more ample manner. And when ſoul no longer energizes, intellect illuminates with its gifts, natures to which ſoul does not communicate its eſſence. For that which is inanimate, ſo far as it participates of form, participates of intellect, and the formation of

of intellect. Beſides, this likewiſe follows that whatever is cauſed by intellect is alſo cauſed by the good, but not the contrary. For the privations of forms emanate from the good: ſince all things flow from this. But intellect ſince it is form, is not the fabricator of privation.

PROPOSITION LVIII.

Every thing produced from many cauſes, is more compounded, than that which is produced from a few.

FOR if every cauſe confers ſomething on that which proceeds from it, many cauſes will confer many gifts, but fewer cauſes will beſtow fewer gifts. Of participants, therefore, ſome will conſiſt from many, but others from a few of the things which each participates; the former indeed on account of their progreſſion from many cauſes, but the latter on account of their progreſſion from a few. But the former proceeding from many cauſes are more compoſite: and things proceeding from a few, are more ſimple than thoſe which proceed from many cauſes. Hence every thing produced from many cauſes, is more compounded; but that which proceeds from a few is more ſimple. For the more compounded participates of that which the more ſimple participates, but the contrary to this, is not true.

PROPOSITION LIX.

Every thing eſſentially ſimple, is either more excellent, or worſe than compoſite natures.

FOR if the *higheſt* of beings are produced from things fewer and more ſimple, but ſuch as are in the *middle*, from a many, theſe will be compoſite. And with reſpect to the *extremes*, ſome are more ſimple, according to that which is more exceſſent, but others according to that which is worſe. But that the higheſt beings are produced from fewer cauſes, is evident from their being ſuperior, and originating prior to inferiors, and extending themſelves over beings, beyond the progreſſions of ſubordinate natures, on account of their diminution of power. For on this account the laſt of beings *, is moſt ſimple, as well as the firſt, becauſe it proceeds from the firſt alone. But one kind of ſimplicity ſubſiſts according to a nature more excellent, but another kind, according to that which is more baſe than every compound; and there will be the ſame proportion in all things.

* By the laſt of beings, he means matter, which on account of its formleſs nature may be conſidered as nothing more than the ſhadow of being; or ſomething if poſſible ſtill more privative and ſimple.

PROPOSITION LX.

Every thing which is the cauſe of a multitude of effects, is more excellent than that which is allotted a power productive of a few; when the few are parts of the many.

FOR if this is the cauſe of a few, but that of a many, and the few are parts of the many, that which forms the one, will alſo form the reſt, if fabricative of a many. It is, therefore, more powerful and comprehenſive of a greater multitude. For as production is to production, ſo is one producing cauſe to another, according to a mutual relation. But that which is capable of accompliſhing more, poſſeſſes a greater, and more univerſal power. And this is nearer to the cauſe of all: but that which is nearer is a greater good: ſince the cauſe of all, is the good itſelf. Hence that which is the cauſe of many effects, is eſſentially more excellent than that which produces but a few.

PROPOSITION LXI.

Every power when impartible is greater, but when divided becomes leſs.

FOR if it is divided, it paſſes into multitude. And if this is the caſe, it becomes more diſtant from unity; and on this account is diminiſhed in power; ſince it departs from unity by which it is contained, and acquires imperfection. Since the good of every thing ſubſiſts through the benefit of union.

PROPOSITION LXII.

Every multitude which is near to unity, is leſs in quantity than things farther diſtant, but is greater in power.

FOR that which is near is more ſimilar to unity. But unity is conſtitutive of all things without multiplication. The cauſe, therefore, of many effects, is more ſimilar to unity. Since the cauſe of all is the moſt uniform and impartible of all things; if the cauſe of all is *one*. As, therefore, that which is leſs multiplied is more allied to the one; ſo that which is productive of a multitude of effects, is more allied to the cauſe of all. But a nature of this kind is more powerful.

COROL-

COROLLARY.

From hence it is evident, that there are more corporeal natures than ſouls; more ſouls than intellects; and more intellects than divine unities. And in all other natures there is the ſame proportion.

PROPOSITION LXIII.

Every imparticipable produces twofold orders of things participated; one in things which ſometimes participate; but the other in ſuch as participate always, and in a connate manner.

FOR that which is always participated, is more ſimilar to an imparticipable than that which is ſometimes participated. Hence that which is always participable, will ſubſiſt prior to that which is ſometimes participated. Becauſe it is participated indeed, differing from that which is poſterior to itſelf, but becauſe it is always more allied, it is alſo more ſimilar to an imparticipable. Nor are there alone things, which are ſometimes participated: for prior to theſe are the natures which are always participated; through which they are conjoined with imparticipables according to a certain well ordered progreſſion. Nor are there alone natures which are always participated: for theſe, ſince they poſſeſs an unextinguiſhable power (on account of their perpetuity), bear other natures in their eſſence, viz. the natures which are ſometimes participated. And as far as to theſe diminution and ſubjection extends.

COROLLARY.

From hence it is manifeſt, that of the unions, which illuſtrate beings from the one, ſome are always participated, but others ſometimes: and that intellectual participations are in the ſame manner twofold; and likewiſe the animations of ſouls, and of other forms. For beauty, and ſimilitude, and ſtation, and identity, are imparticipable, but they are participated, through things which always participate, and by things which ſometimes participate in a ſecondary manner, according to the ſame order.

PROPOSITION LXIV.

Every principal unity produces a twofold number; one indeed of ſelf-perfect ſubſtances; but the other of illuminations, poſſeſſing their ſubſiſtence in others.

FOR if its progreſſion takes place by ſubjection, and through things proper to fabricative cauſes; and if perfect natures proceed orderly from the perfect, and things imperfect

imperfect through theſe as mediums: hence ſome will be ſelf-perfect ſubſtances, but others imperfect; and theſe laſt will become the forms of participants. For ſince they are imperfect, they will be indigent of ſubjects to their exiſtence. But the perfect natures will make themſelves their own participants: for ſince they are perfect, they will repleniſh and eſtabliſh themſelves. But they will require nothing of inferior natures, to their proper ſubſiſtence. Self-perfect ſubſtances, therefore, on account of their diſtinction into multitude, are diminiſhed from their principal unity; but on account of their ſelf-perfect eſſence, they are in a certain reſpect aſſimilated to it. But imperfect ſubſtances becauſe they reſide in others, are remote from that which is ſelf-ſubſiſtent; and becauſe they are imperfect, they are diſtant from that which perfects all things. But progreſſions are accompliſhed by things ſimilar, as far as to things perfectly diſſimilar. Hence every principal unity produces a twofold number.

COROLLARY.

From hence it is evident, that with reſpect to unities, ſome are ſelf-perfect proceeding from *the one*: but that others are illuminations of unities and intellect. And again, that ſome of theſe are ſelf-perfect eſſences, but others nothing more than reſemblances of ſouls which are animated. And hence, neither is every unity a god, but this is peculiar to a ſelf-perfect unity alone. Nor is every intellectual property an intellect, but that which is eſſential alone. Nor is every illuſtration of ſoul, a ſoul: but there are likewiſe images of ſouls.

PROPOSITION LXV.

Every thing which ſubſiſts in any manner whatever, either ſubſiſts according to cauſe, in a primary manner (or poſſeſſing the form of a principle ἀρχοειδῶς) or according to hyparxis *, or according to participation, after the manner of an image (εἰκονικῶς.)

FOR either the thing produced is beheld in its producing cauſe, as in a pre-exiſtent cauſe: (becauſe every cauſe previouſly aſſumes in itſelf, the thing cauſed, being that primarily, which its effect is ſecondarily) or the producer, is beheld in the thing produced. For ſince that which is produced participates of its producing cauſe, it exhibits in itſelf, in a ſecondary manner, that which its producer is primarily. Or every

* By ὑπαρξίς, *hyparxis*, in theſe Elements is meant that *characteriſtic* or *ſummit* of any nature, through which it ſubſiſts: and in the gods is the ſame with the *unity* and *deity* of their natures. And it is likewiſe neceſſary to inform the reader, that by ὑποστασις, *hypoſtaſis*, or ſubſiſtence, is meant any individual nature whether eſſential, or ſuper-eſſential, conſidered as ſomething diſtinct and different from *accident*.

thing

thing is to be conſidered in its own order, and is not to be contemplated either in its cauſe, or in the thing cauſed. For the one ſo far as it exiſts, ſubſiſts after a more excellent mode; but the other, ſo far as it is, in a ſubordinate manner. But it is requiſite that this laſt alſo, ſhould be ſuch as it is. And every thing ſubſiſts in its own order, according to hyparxis.

PROPOSITION LXVI.

All beings are to one another either wholes, or parts, and are either *the ſame*, or *different*.

FOR either one comprehends, but the remainder are comprehended; or they neither comprehend, nor are comprehended. And they either ſuffer that which is the ſame, as participating one; or they are diſtinguiſhed from one another. But if they comprehend they are wholes: and if they are comprehended they are parts. But if many things participate one, they are the ſame according to one. But if they are many only; ſo far as many they are different from each other.

PROPOSITION LXVII.

Every totality is either prior to parts, or compoſed from parts, or contained in a part.

FOR we either contemplate the form of every thing in its cauſe, and affirm that the whole which ſubſiſts in its cauſe is prior to parts; or we contemplate the form of a thing in the parts which participate of that form. And this in a twofold reſpect. For the form is either collectively in all the parts; and this is a whole compoſed from parts, any one of which when abſent diminiſhes the whole itſelf. Or it is in each of the parts; ſo that every part according to participation becomes a whole, i. e. a partial whole. But the whole compoſed from parts ſubſiſts on account of eſſence. But that which is prior to parts according to cauſe: and that which ſubſiſts in a part, according to participation. For this is a whole according to ultimate ſubjection, ſo far as it imitates the whole conſiſting from parts; ſince it is not any part indifferently, but that which is capable of being aſſimilated to a whole, whoſe parts alſo are wholes.

PROPOSITION LXVIII.

Every whole contained in a part, is a part of that whole which is compoſed from parts.

FOR if it is a part, it is a part of ſome whole: and is either a part of that whole which abides in itſelf, according to which it is called a whole in a part. But on this hypotheſis the whole would be a part of itſelf, and a part would be equal to the whole, and each would be the ſame. Or it will be a part of ſome other whole; and if of ſome other, it is either only a part of that other, in ſuch a manner as again to differ in no reſpect from the whole. Or it will be a part together with ſome other whole. For the parts of every whole, are more than one; and this will be a whole compoſed from many parts. And thus the whole contained in a part, is a part of that whole which is compoſed from parts.

PROPOSITION LXIX.

Every whole compoſed from parts, participates of that totality which is prior to parts.

FOR if it is compoſed from parts, it becomes paſſive to a whole. For the parts ſince, they are made one, ſuffer a whole, on account of their union: and this is a whole ſubſiſting in parts which are not wholes. But that which is imparticipable has an exiſtence prior to every thing participated. An imparticipable totality, therefore, exiſts prior to a participated totality. And hence there is a certain ſpecies of totality, prior to that whole, which is compoſed from parts. And this is not a paſſive whole, but is an eſſential totality; from which the totality reſulting from parts proceeds. Since likewiſe that whole which is compoſed from parts, ſubſiſts in many places, and in various ways, in many other things compoſed from parts. But it is requiſite that there ſhould be an eſſential monad or unity of all totalities. For each of theſe wholes is not ſincere, becauſe indigent of the parts from which it is compoſed, and which are themſelves different from wholes. Nor if this whole was generated in any thing particular, could it be the cauſe that all others are wholes. The cauſe, therefore, by which all things are wholes, is prior to parts. For if this alſo was compoſed from parts, it would be a *certain whole*, and not that which is *ſimply whole*. And this again would ſubſiſt from another whole: and this muſt either be the caſe in infinitum, or there muſt be a firſt whole; a whole not compoſed from parts, but that which is a perfect totality.

PROPO-

PROPOSITION LXX.

That which is more univerſal ſubſiſts in principal cauſes, and prior to particulars illuminates participants; and leaves that which participates as ſecond in order from principal cauſes.

FOR a more univerſal cauſe begins its energy in ſecondary natures, prior to that which is poſterior to a more univerſal cauſe: and it is preſent not only when that which is poſterior is preſent, but even when the energy of that which is poſterior is no more; and it energiſes in a more cauſal manner, and this not only in different ſubjects, but alſo in each of the things which ſometimes participate. Thus for example it is requiſite, that being ſhould be firſt, afterwards animal, and then man. And the ſpecies man no longer exiſts, when deſerted by the rational power: but animal, breathing and ſentient, will ſtill ſubſiſt. And again, though life is taken away, being remains: for when man ceaſes to live, being is preſent. And the ſame reaſoning may be adopted in all things. But a cauſe which is more efficacious, and which is on this account more cauſal, energiſes firſt in a more cauſal nature: for it ſuffers the ſame from a cauſe more powerful, and prior to itſelf; and it co-energiſes with that which is ſecondary when in energy. For every thing which generates that which is ſecondary, congenerates alſo that which is more cauſal: and when that which is ſecondary deſerts the more cauſal nature, that which generates the ſecondary nature is preſent. For the communication of a more powerful cauſe, when it is more efficacious, leaves that which participates it, the laſt of all. For through the communication of that which is ſecond, it ſtrengthens its own illumination.

PROPOSITION LXXI.

All things which abide in principal cauſes, and which poſſeſs a more univerſal and ſuperior order in effects, according to the illuminations proceeding from them, become in a certain reſpect the ſubjects of the communications of particulars. And the illuſtrations emanating from ſuperior, receive the progreſſions of ſecondary natures. And thus ſome participations antecede others, and repre-

ſentations, or reſemblances (ἐμφάσεις) ſupernally coaleſce one after another in the ſame ſubject: things more univerſal energizing firſt, but particulars poſterior to the energy of univerſals, beſtowing their communications on their participants.

FOR if things which partake more of cauſe, energize prior to things ſecondary, on account of their exuberance of power, and are preſent with, and illuminate things endued with a more imperfect aptitude: but if things more ſubordinate, and which are ſecond in order, receive their communications from theſe; it is evident that the illuſtrations of ſuperior natures pre-occupy that which participates of both, and eſtabliſh the communications of ſubordinate natures. But theſe illuſtrations uſe the reſemblances emanating from ſuperior natures, as ſupports and foundations, and operate in a participant prepared by ſuperior natures.

PROPOSITION LXXII.

All things which in their participants have the relation of a ſubject, proceed from more perfect and univerſal cauſes.

FOR the cauſes of many effects are more powerful and univerſal, and nearer to *the one*, than the cauſes of a few effects. But things producing the ſubjects of others, are the cauſes of many effects, becauſe they likewiſe produce aptitudes, before forms are preſent. And hence theſe are more univerſal and perfect in the order of cauſes.

COROLLARY.

From hence it is evident why matter which derives its ſubſiſtence from *the one*, is eſſentially deſtitute of form. And why body is effectually deſtitute of ſoul, although it participates of being. For matter which is the ſubject of all things proceeds from the cauſe of all *: but body which is the ſubject of animation, ſubſiſts from that which is more univerſal than ſoul, becauſe it participates of being in a certain reſpect.

* By matter proceeding from the cauſe of all, nothing more is meant than that it depends entirely on the firſt cauſe for its ſhadowy and unreal ſubſiſtence: for as the emanations of cauſes are extended in proportion to their eminence; hence the proceſſions of the one extend beyond thoſe of every other cauſe, and even leave faint traces of their illuminations in the dark receptacle of matter.

PROPOSITION LXXIII.

Every whole is at the ſame time a certain being, and participates of being: but every being is not a whole.

FOR either *being* and *whole* is the ſame; or the one is prior, and the other poſterior.

But a part alſo, ſo far as a part, is a certain being (for that which is a whole conſiſts from partial beings) yet is not an eſſential whole. And hence *being* and *whole* is not the ſame: for on this hypotheſis, a part would be a *non-entity*. But if the part is a *non-entity*, neither can the whole be *being*. For every whole is a whole of parts, either conſidered as exiſting prior to the parts *, or as inherent in the parts. But the part being a non-entity, it is impoſſible that the whole can exiſt. But if the whole is prior to being, every being will be immediately a whole; and ſo a part, will not be a part, which is impoſſible. For if a whole is a whole, and is a whole of parts; the part alſo exiſting as a part, will be a part of the whole. It remains therefore that every *whole* is *being*, but not every *being a whole*.

COROLLARY.

For hence it is evident that the firſt being is above totality, ſince being is preſent to a multitude of things: for it affords eſſence to parts, ſo far as parts. But totality is preſent to fewer natures. For the cauſe of a multitude of effects is more excellent: but that of a few is ſubordinate, as is demonſtrated.

PROPOSITION LXXIV.

Every form is a certain whole.

FOR it is compoſed from a multitude of things, each of which repleniſhes the form.

But every whole is not a form. For that which is particular, and an indiviſible, is indeed a whole, ſo far as it is an indiviſible; but is not a form: For every whole conſiſts from parts. But form or ſpecies, is that which may be divided into many particular forms. Hence *whole*, and *form* differ from each other: and the former is inherent in more natures than the latter. That which is *whole*, therefore, is above the *forms* of beings.

COROLLARY.

From hence it is evident that *whole* poſſeſſes a middle order between being, and forms: and hence it follows that being is prior to forms, and that forms, are beings;

* This follows from Prop. 69. For every whole prior to parts, may be ſaid to be a whole of parts, becauſe every whole formed from parts, participates of that totality which is prior to parts.

and

and yet every being is not a form. From hence likewiſe in effects, privations are after a certain manner beings, yet they are not forms *. But on account of the unifying power of being, they likewiſe receive a certain debile repreſentation of being.

PROPOSITION LXXV.

Every thing which is called a cauſe properly, is exempt from its effect.

FOR if it ſubſiſted in its effect, it muſt either repleniſh its effect, or be indigent of it in a certain reſpect, in order to its being; and thus be more imperfect than its effect. But that which abides in its effect, is more an aſſiſtant-cauſe than cauſe itſelf: becauſe it is either a part of that which is made, or an inſtrument of that which makes. For the part ſubſiſting in that which is made, is more imperfect than the whole: and the inſtrument which ſupplies the meaſures of fabrication to the efficient, is not able to ſeparate itſelf. Every thing, therefore, which is properly a cauſe, if it is more perfect, than that which proceeds from it, affords likewiſe a meaſure to generation, and is exempt from inſtruments, and elements, and from every thing which is ſimply called an aſſiſting cauſe.

PROPOSITION LXXVI.

Every thing which is produced from an immoveable cauſe, poſſeſſes an immutable hyparxis: but every thing which emanates from a moveable cauſe, poſſeſſes a mutable hyparxis.

FOR if every thing which fabricates is entirely immovable, it produces that which is ſecond from itſelf, not by motion, but by being. But if this be the caſe, that which emanates from it, concurs with its eſſence. And if this be the caſe, as long as it exiſts, it will produce. But it always is, and therefore will always produce that which is poſterior to itſelf. Hence too that which is poſterior always emanates from thence, and always is; conjoining its own *progreſſive ever*, with the *ever* according to energy, of an immoveable cauſe. If, therefore, the cauſe is moved, that alſo which is produced by it will be eſſentially mutable. For that which derives its eſſence through motion, when

* Thus matter poſſeſſes a certain obſcure image of being, but does not preſerve the moſt debile impreſſion of form. For as the gradations of being are more extended than thoſe of form, and as matter is the laſt of things; hence matter may be ſaid to retain the footſtep of *being* in its dark receptacle, whilſt the proceſſions of form are reflected like echoes from its rebounding ſeat.

the

the motion is changed, changes its being. For if that which is produced from motion abides immutable, it will be more excellent than its producing cauſe: but this is impoſſible. It will not, therefore, be immutable; and will conſequently be changed, and moved according to eſſence, imitating the motion by which it is produced.

PROPOSITION LXXVII.

Every being in *capacity*, emanates from that which is *energy*; and that which is in capacity proceeds into energy. But that which is in a certain reſpect in capacity, ſo far as it is in capacity, emanates from that which is in a certain reſpect in energy. And that which is all things in capacity proceeds from that which is all things in energy.

FOR that which is in capacity is not adapted to produce itſelf into energy, becauſe it is imperfect. For if that which is imperfect ſhould become the cauſe of perfection to itſelf, and this in energy, the cauſe will be more imperfect than that which it produces. Hence that which is in capacity, ſo far as in capacity, will not be to itſelf, the cauſe of ſubſiſting in energy. For on this hypotheſis, ſo far as it is imperfect, it will be to itſelf the cauſe of the perfect: ſince every thing in capacity, ſo far as in capacity, is imperfect. But every thing which is in energy, ſo far as in energy, is perfect. If then that which is in capacity becomes in energy, it will inherit perfection from ſomething elſe. And this again, will be either in capacity; (but then again, the imperfect will be generative of the perfect), or it will be in energy. And either ſomething elſe, or this which is in capacity, will riſe into energy. But if ſomething elſe in energy operates, acting according to its propriety, it will produce into energy, that which is in capacity, in another. Nor will this again be in energy; unleſs it riſes into energy from capacity. It remains, therefore, that from that which is in energy, that which is in capacity muſt be changed into energy.

PROPOSITION LXXVIII.

All power or capacity is either perfect, or imperfect.

FOR that which produces energy is a perfect power: for it makes other things perfect through its energies. But that which is perfective of others, is greater, becauſe it is more ſelf-perfect. But the power which is indigent of ſomething pre-exiſting

ing in energy, according to which it is ſomething in capacity, is imperfect: for it is indigent of the perfect abiding in another, that it may become perfect through its participation. And hence ſuch a power is eſſentially imperfect. Hence too the power which ſubſiſts in energy is perfect, becauſe prolific of energy. But the power which ſubſiſts in capacity is imperfect; deriving its perfection from power in energy.

PROPOSITION LXXIX.

Every thing which is generated, is generated from a twofold power.

FOR it is requiſite that it ſhould be adapted to generation, and that it ſhould poſſeſs an imperfect power. It is likewiſe requiſite that the agent being in energy, ſuch as that which is generated is in capacity, ſhould previouſly aſſume a perfect power. For every energy proceeds from inherent power. For if the agent does not poſſeſs power, how can it energiſe, and operate in another? But if that which is generated, does not poſſeſs power according to aptitude, how can it be fabricated? For that which produces, produces every thing, in that which poſſeſſes a paſſive power; but not in every thing; nor in that which is not naturally paſſive to the energies of the producing cauſe.

PROPOSITION LXXX.

Every body is naturally adapted to paſſivity: but every thing incorporeal is naturally adapted to fabricate. And the former is eſſentially inefficacious, but the latter is impaſſive. Yet that which is incorporeal becomes paſſive through its communion with body: juſt in the ſame manner, as bodies are enabled to fabricate, through the participation of incorporeals.

FOR body, as body is diviſible alone, and through this becomes paſſive; being every way partible, and this every way in infinitum. But that which is incorporeal, becauſe it is ſimple, is impaſſive. For neither can that which is impartible be divided, nor can that which is incompoſite be altered. Hence nothing will be fabricative, or this muſt be affirmed of an incorporeal: ſince body ſo far as body, does not operate, becauſe it is alone expoſed to diviſion and paſſivity; while on the contrary every agent poſſeſſes an active power. Hence it will not fabricate ſo far as body, but according to a power of operating, which it contains. But body is eſſentially inefficacious, and impotent: and hence when it fabricates, it fabricates by a participation of power. But incorporeals likewiſe

likewiſe participate of paſſions, when they abide in bodies; becauſe in this caſe they are divided in conjunction with bodies, and enjoy their partible nature, though at the ſame time, they are impartible according to their proper eſſence.

PROPOSITION LXXXI.

Every thing which is participated in a ſeparable manner, is preſent by a certain inſeparable power, which it inſerts in its participant.

FOR if it is ſeparable from its participant, and does not abide in it, as that which poſſeſſes a ſubſiſtence in itſelf, a certain medium is requiſite, which may connect the one with the other, and which is more ſimilar to that which is participated, and to that which participates. For if this medium is ſeparable, how can it be participated by the participant? Since neither the participant contains the medium nor any thing proceeding from this medium. A power, therefore, and illumination emanating from this medium, into its participant, conjoins both. One thing, therefore, is that through which participation ſubſiſts, but the ſecond is that which is participated, and the third is the participant.

PROPOSITION LXXXII.

Every thing incorporeal, becauſe converted to itſelf, when it is participated by others, is participated in a ſeparable manner.

FOR if in an inſeparable manner, its energy will not be ſeparable from its participant, any more than its eſſence. But if this be the caſe, it will not be converted to itſelf. For if it is converted it will be ſeparable and different from its participant. If, therefore, it is capable of being converted to itſelf, it is participated in a ſeparable manner, when it is participated by others.

PROPOSITION LXXXIII.

Every thing endued with a ſelf-gnoſtic power, is entirely converted to itſelf.

FOR that which is converted to itſelf, in energy, manifeſtly knows itſelf: for that which knows is one and the ſame with that which is known; and the knowledge

of itſelf reverts to itſelf, as that which is known. And as this knowledge belongs to that which knows, it is a certain energy: but it is an energy of itſelf to itſelf, becauſe it poſſeſſes a power of knowing itſelf. But that this alſo ſubſiſts in eſſence if in energy has been demonſtrated. For every thing which is converted to itſelf in energy, contains alſo an eſſence verging to itſelf.

PROPOSITION LXXXIV.

Every thing which always *is*, poſſeſſes an infinite power.

FOR if its eſſence is never-failing, its power alſo, according to which it is what it is, and is able to be, muſt be infinite. For if the power according to which it ſubſiſts was finite, it would ſome time or other fail. But if it ſhould fail, the being alſo of that which poſſeſſes this power muſt fail; nor would it be any longer an eternal being. It is requiſite, therefore, that the power belonging to, and containing that which always is, ſhould be eſſentially infinite.

PROPOSITION LXXXV.

Every thing which is always *in generation* (ἀεὶ γινόμενον), poſſeſſes an infinite power of *being generated* (τὸ γίνεσθαι).

FOR if it is always in the act of becoming to be, it contains a never-failing power of generation. For if its power was finite, it would ceaſe in a infinite time. But if its power of being generated ceaſes, that alſo which is in generation will ceaſe; viz. that which is in generation according to this power will ceaſe; nor will it any longer be always in generation *. But it is always in generation, according to the hypotheſis: and conſequently it poſſeſſes an infinite power of being generated.

* The propoſition ends here in the Greek, though very erroneouſly; and its concluſion forms the beginning of the next propoſition. It is ſtrange that Portus ſhould not have detected, this egregious miſtake, which the alteration of a ſingle letter, would have enabled him to rectify. Thus if after ἀλλὰ μὴν ἀεὶ ὑπάρχειται γινόμενον. ἄπειρον ἄρα ἴσχει τὴν τοῦ γίνεσθαι δύναμιν, which is the concluſion of the propoſition; πᾶν τὸ ὅλως ὄν, &c. is retained, inſtead of ἅπαν τὸ ὅλως ὄν, and is made the beginning of the next propoſition, the whole will be correct and plain. Such miſtakes, are dreadful inſtances of the danger attending the underſtanding from the ſtudy of words alone.

PROPOSITION LXXXVI.

Every *true being* is infinite, not according to multitude, nor according to magnitude, but according to power alone.

FOR every infinite is either in multitude, or in magnitude, or in power. But true being is indeed infinite, as poſſeſſing an inextinguiſhable life, a never-failing eſſence, and an undiminiſhed energy. Nor is it infinite on account of magnitude; ſince that which is true being, is without magnitude, and ſelf-ſubſiſtent. For every ſelf-ſubſiſtent being, is impartible, and ſimple. Nor is it infinite, on account of multitude, for it is moſt uniform, on account of its vicinity, and alliance to the one. But the one is infinite according to power: and hence through this, true being will be impartible and infinite. And indeed by how much the more it is one and impartible, by ſo much the more will it be infinite. For power when diſtributed into parts, becomes debile, and finite. And powers entirely partible, are entirely finite. For ſuch as are laſt, and moſt diſtant from the one, are after a certain manner finite: but firſt powers are on account of their impartibility infinite. For partition diſſipates and diſſolves the power of every thing. But impartibility, from its binding and collective nature, contains in itſelf, that which is never-failing and undiminiſhed. But infinite according to magnitude and multitude, is entirely a privation, and deſertion of impartibility. For that which is finite proximately approaches to that which is impartible; while that which is infinite is moſt diſtant from an impartible nature, becauſe it on all ſides departs from the one. Hence that which is infinite according to power, does not belong to the infinite, either of multitude, or magnitude: ſince infinite power is co-exiſtent with impartibility. But infinite, either in multitude or magnitude is moſt diſtant from an impartible nature. If, therefore, true being was infinite, either in magnitude, or multitude, it would not be endued with infinite power. But it is endued with infinite power, and is, therefore, not infinite, either according to magnitude, or multitude.

PROPOSITION LXXXVII.

Every thing eternal, is *being*; but not every being is *eternal*.

FOR in generated natures the participation of being, is after a certain manner inherent, ſo far as they are not that, which is in no reſpect being. But if that which is in generation, is not that which *is in no reſpect being* (οὐδαμῶς ὄν,) it is being, *in a certain reſpect* (ἤτοι πῇ ὄν.) But that which is eternal, or eternity itſelf, is *in no reſpect* inherent

in generated natures; and is particularly ſeparated from things which do not participate of eternity, according to the whole of time. But every thing eternal always is; for it participates of eternity itſelf, which confers perpetual being, on the natures by which it is participated. *Being*, therefore, is participated by more natures than *eternity*: and hence *being* is above *eternity*. For things which participate eternity, participate alſo of being: but not all that participate of being, participate alſo of eternity.

PROPOSITION LXXXVIII.

Every true being, is either prior to eternity, or abides in eternity, or participates of eternity.

BUT that it is above, or prior to eternity, is demonſtrated in the preceding propoſition. And it likewiſe abides in eternity: for eternity poſſeſſes perpetuity together with being. And this is alſo true of that which participates of eternity: for every thing eternal, is called eternal from its participation of perpetuity and being. For this according to participation poſſeſſes both perpetuity and being. But *eternity* poſſeſſes perpetuity the firſt of all; but *being*, through participation *. And being itſelf, is the firſt being.

PROPOSITION LXXXIX.

Every *primary being* (πρώτως ὄν) conſiſts of *bound*, and *infinite*.

FOR if it is endued with infinite power, it is evident that it is infinite, and through this ſubſiſts from *infinite*. But if it is impartible and uniform, through this it participates of *bound*. For that which participates of the one, is bounded. But that which is impartible, is at the ſame time endued with infinite power. Every true being, therefore, conſiſts from *bound* and *infinite*.

* To a reader not ſkilled in the Platonic philoſophy, it will doubtleſs appear ſtrange, that *being* ſhould be prior to *eternity*, and yet each participate of one another. This apparent paradox may be eaſily ſolved, by conſidering that the mode of participation is different in each. For *being* participates of eternity, as eſtabliſhing, illuminating, repleniſhing, and deifying eternity: but *eternity* participates of being, as depending upon, eſtabliſhed and deifyed by being. So that when a ſuperior, participates of an inferior nature, the participation conſiſts in the energy of the former on the latter: but when an inferior participates of a ſuperior nature, the participation conſiſts in its receiving the communications of the ſuperior nature.

PROPOSITION XC.

First bound, and *first infinity*, have a ſelf-ſubſiſtence prior to all things which conſiſt from *bound* and *infinite*.

FOR if beings which ſubſiſt from themſelves, ſubſiſt prior to certain beings, becauſe common to all, and primary cauſes, and this not to ſome in particular, but ſimply to all; it is requiſite that there ſhould be a firſt bound, and a firſt infinity prior to that which conſiſts from both. For in that which is mixed, *bound* participates of *infinity*, and *infinity* of *bound*. But the firſt of each, is no other than that which it is. It is requiſite, therefore, that that which is *primarily infinite* ſhould not poſſeſs the form of *bound*, and that that which is *primarily bound*, ſhould not poſſeſs the form *of infinite*. And hence theſe ſubſiſt primarily prior to that which is mixed.

PROPOSITION XCI.

Every power is either bounded, or infinite. But every terminated power ſubſiſts from infinite power: and infinite power from *firſt infinity*.

FOR powers which have a partial exiſtence, or ſubſiſt ſometimes, are bounded; becauſe they have fallen from the infinity of perpetual being. But the powers of eternal beings, are infinite, becauſe they never deſert their own hyparxis.

PROPOSITION XCII.

Every multitude of infinite powers, depends on one firſt infinity, which is not as a participated power, and which does not ubſiſt in things endued with power, but is eſſential; not exiſting as the power of any participant, but as the cauſe of all beings.

FOR though the firſt being poſſeſſes power, yet it is not power itſelf: for it likewiſe poſſeſſes bound. But the firſt power is infinity: for infinite powers, are infinite, through the participation of infinity. Infinity itſelf, therefore, will be before all powers; through which being alſo poſſeſſes infinite power, and all things participate of infinity. For *that which is firſt*, is not infinity: for that is the meaſure of all things, becauſe it is the good, and the one. Nor is *being* infinity: for this is infinite, but not infinity (or infinite itſelf.) Hence between that which is firſt, and being itſelf, infinity ſubſiſts, as the cauſe of all things endued with infinite power, and of all the infinity in beings.

PROPO-

PROPOSITION XCIII.

Every infinite ſubſiſting in beings, is neither infinite with reſpect to ſuperior natures; nor is it infinite to itſelf.

FOR that by which every thing is infinite, by this alſo it is without circumſcription. But every thing in natures ſuperior to beings, is bounded in itſelf, and in all things prior to itſelf. It remains, therefore, that the infinite belonging to inferior natures, belongs to them alone, above which it is expanded in ſuch a manner, that it is incomprehenſible by them all. For however they may extend themſelves towards this infinite, yet it poſſeſſes ſomething entirely exempt from their nature. And though all things enter into this infinite, yet it poſſeſſes ſomething occult, and incomprehenſible by ſecondary natures. And again, though it expands its powers, yet it contains ſomething on account of its union, invincible, convolved, and ſurpaſſing their involutions. Likewiſe containing and bounding itſelf; it will not be infinite to itſelf; and much leſs will it be infinite with reſpect to ſuperior natures, becauſe it poſſeſſes a portion of the infinity which they contain. For the powers of more univerſal natures are more infinite *, becauſe they are more univerſal, and are placed nearer to the firſt infinity.

PROPOSITION XCIV.

Every eternity is a certain infinity, but every infinity is not an eternity.

FOR many infinites poſſeſs *the infinite*, not on account of their perpetuity; as is evident in the infinity according to multitude, and according to magnitude, and in the infinity of matter; and whatever elſe may be infinite, either becauſe it cannot be paſſed over, or on account of the indefinite nature of its eſſence. But that eternity is an infinity, is evident: for that which never fails is infinite: and this becauſe it poſſeſſes a never-failing ſubſiſtence. Infinity, therefore, is prior to eternity. For that which conſtitutes a greater multitude, and is more univerſal, is a more cauſal nature. *Firſt infinity*, therefore, is above eternity, and *infinity itſelf*, is prior to eternity.

* The reader muſt not be ſurpriſed to find that among infinites, ſome are more infinite than others. For as among beings ſome are truer than others, and poſſeſs more of real being in proportion as they approach nearer to being itſelf; at the ſame time that they are all in a certain reſpect beings: ſo infinites poſſeſs more of infinity, as they approach nearer to the infinite itſelf. Thus for inſtance eternity poſſeſſes infinity more truly than time, though time alſo is infinite; becauſe the infinity of eternity, is a ſtable indiviſible life, but the infinity of time conſiſts in an unceaſing progreſſion, or as it were an unwearied purſuit of infinity, which it can alone obtain in an extended and partible manner. And this difference among infinites extends even to matter itſelf, which is the moſt degraded and abject of all infinites, becauſe it is infinite only in the moſt dormant capacity.

PROPO-

PROPOSITION XCV.

Every power which poſſeſſes more of the nature of the one than of multitude, is more infinite than the power which is multiplied.

FOR if the firſt infinity is the neareſt to the one, hence of the powers which are more allied to the one, that which is leſs diſtant from the one, is more infinite. For when multiplied it loſes its uniform nature; in which when it abides, it will poſſeſs a ſuperiority among other natures, being contained by impartibility. For among partible natures, collected powers are multiplied, but ſuch as are divided, are debilitated.

PROPOSITION XCVI.

The power of every finite body, when infinite is incorporeal.

FOR if this power is corporeal, ſince in this caſe it would be an infinite body, infinite would reſide in that which is finite. But if this power is a finite body, it will not be an infinite power, on account of body, but on account of ſomething elſe. For if through body it is finite, but through power infinite; it will not be power, on account of body. Hence the infinite power, which reſides in a finite body is incorporeal.

PROPOSITION XCVII.

Every principal cauſe in every ſeries, communicates its property to all that ſeries: and the ſeries is that by remiſſion, or ſubjection, which this cauſe is after a primary manner.

FOR if it is the leader of the whole ſeries, and all kindred natures, are co-ordinated to this cauſe, it is manifeſt, that it confers on all one idea, through which they are allotted an order under the ſame ſeries. For either all things participate of ſimilitude with this principal cauſe, without a cauſe; or the ſameneſs which is in all, proceeds from this principal cauſe. But that this ſhould be the caſe, without a cauſe, is impoſſible: for that which is without a cauſe is fortuitous. But among things in which there is order, and a connection with each other, and which always abide in the ſame ſtate,

ſtate, chance can never take place. From this principal cauſe, therefore, the whole ſeries receives the property of its ſubſiſtence. And if from this cauſe, it is evident that it receives this property with remiſſion, and a deſcent accommodated to ſecondary natures. For either this property ſubſiſts in a ſimilar manner, in that which is principal, and in things ſecondary, and the former preſides, but the latter are allotted a ſubſiſtence poſterior to the principal; or it ſubſiſts in a diſſimilar manner. And if this is the caſe, it is manifeſt that identity in multitude proceeds from one, and not the contrary; and that the property which primarily pre-exiſts in one, is ſecondarily in multitude, and is exempt from the ſeries.

PROPOSITION XCVIII.

Every ſeparate cauſe, is at once, every where, and no where.

FOR by the communication of its power, it is every where. For this is a cauſe, which repleniſhes things naturally adapted to participate of its nature, and is the leader of all ſecondary natures, and is preſent to all the prolific progreſſions of illuſtrations. But, on account of an eſſence unmingled with things in place, and through its excellent purity, it is no where. For if it is ſeparate from effects, it is placed above all things. In like manner it reſides in none of the natures ſubordinate to itſelf. For if it was alone every where, it would not indeed be hindered from being a cauſe, and it would be in all participants: but it would not be in a ſeparate manner prior to all. But if it was no where, without being every where, it would not indeed be reſtrained from being prior to all things, and it would not be any one of ſubordinate natures, but it would not be in all things; as cauſes are naturally in things cauſed, through their abundant communications. On account of its being a cauſe, therefore, it is in all things which are able to participate its nature: and from its being ſeparate in itſelf, it is prior to all the natures which it repleniſhes; and is at once every where and no where. And indeed it is not according to a part every where, and according to a part no where: for thus it would ſuffer a divulſion and ſeparation from itſelf: ſince one part of itſelf would be every where in all things, and another part would be no where, and prior to all things. But it is total, every where and no where, after the ſame manner. For things which are able to participate of this cauſe, abide in the *whole*, and find the *whole* preſent with their nature; while this whole is exempt from its participants. For its participant does not eſtabliſh this whole in itſelf, but participates of it as much as it is able to receive. Nor in communicating does it contract itſelf, through the participations of a multitude of things: for it is ſeparate. Nor do the participants participate in a defective manner: for that which communicates is every where.

PROPO-

PROPOSITION XCIX.

Every imparticipable, ſo far as it is an imparticipable, does not ſubſiſt from another cauſe, but is the principle and cauſe of all participated natures. And in conſequence of this every principle in every ſeries is without generation.

FOR if it is imparticipable, it is allotted a principality in its own proper ſeries, and does not proceed from others: for it would not be the firſt, if it received that property on account of which it is imparticipable, from any other. But if it is worſe than others and proceeds from them, it is not allotted a progreſſion, ſo far as it is imparticipable, but ſo far as it is a participant. For in this caſe it participates of the natures from which it proceeds, and the things which it participates, have not a primary ſubſiſtence. But that which is imparticipable has a primary ſubſiſtence. And hence ſo far as it is imparticipable it does not flow from a cauſe *. For if it proceeded from a cauſe, it would be a participant, and not an imparticipable. But ſo far as it is an imparticipable, it is the cauſe of participants, and not that which participates of others.

PROPOSITION C.

Every ſeries of wholes is extended to an imparticipable cauſe and principle. But all imparticipables depend on one firſt principle of all.

FOR if every ſeries ſuffers a certain fameneſs, there is ſomething in every ruling nature, which is the cauſe of identity. For as all beings proceed from *the one*, ſo likewiſe every ſeries emanates from *one*. But all imparticipable unities are reduced to the one itſelf: becauſe all of them are analogous to the one. So far, therefore, as they ſuffer a certain ſameneſs, through their analogy to the one, ſo far they are reduced to the one itſelf. And ſo far as they all proceed from *the one*, none of them is a principle, but they flow from *the one*, as from a principle. But ſo far as each of them is imparticipa-

* Thus for inſtance the firſt being, or *being itſelf*, does not flow from any being as its cauſe, becauſe it is without any participation of being: and though it proceeds from a ſuperior cauſe, i. e. the *one itſelf*, yet it does not proceed from this cauſe, on account of its being an imparticipable, but on account of its being ſubordinate to the one, and conſequently a participant of the one. And this is likewiſe true in every other imparticipable.

ble, ſo far each of them is a principle. Becauſe, therefore, they are principles of certain things, they depend on the principle of all: for that is the principle of all, of which all participate. But the firſt is alone participated by all things; while ſome things only participate of the reſt. And hence *the one* is that which is ſimply the firſt. But others are firſts with relation to a certain order, but are not ſimply firſts.

PROPOSITION CI.

The leader of all things participating of intellect, is an imparticipable intellect: of all things participating life, an imparticipable life: and of all things participating being, an imparticipable being. But of theſe, being is prior to life, and life is prior to intellect.

FOR ſince in every order of beings, imparticipables are prior to participants, it is requiſite that there ſhould be an intellect prior to intellectuals, life prior to things vital, and being prior to beings. But ſince that which is the cauſe of more effects precedes that which is the cauſe of a fewer; hence among theſe being will be the firſt: for it is preſent to all things, to which life and intellect is preſent. For every thing vital and intellectual participates of being; but the contrary is not a neceſſary conſequence: ſince all beings are not endued with life, and intellect. But the ſecond in order is life: for all things to which intellect is preſent, participate alſo of life; but the contrary is not true. For many things are endued with life, but are deſtitute of cognition. But the third is intellect. For every thing which is endued in any reſpect with cognition, both lives, and poſſeſſes being. If, therefore, being is the cauſe of more effects; but life of fewer; and intellect of ſtill fewer; hence *being* is the firſt in order, *life* the ſecond, and *intellect* the third.

PROPOSITION CII.

All beings, in whatever manner they may poſſeſs being, conſiſt from *bound* and *infinite*, through the firſt being. But all vital natures, are ſelf-motive, through the firſt life. And all gnoſtic natures, participate of cognition, through the firſt intellect.

FOR if that which is in every ſeries imparticipable, communicates its peculiar property, to all things under the ſame ſeries; it is evident that being firſt communicates

cates to all things *bound* together with *infinite*; ſince it is primarily mixed from theſe. And life imparts the motion reſident in its nature: for life is the firſt progreſſion and motion, from the ſtable ſubſiſtence of being. And laſtly, intellect imparts cognition: for the ſummit of all cognition, is in intellect; and intellect is the firſt gnoſtic nature.

PROPOSITION CIII.

All things are in all, but ſubſiſt peculiarly in each.

FOR in being there is both life and intellect; and in life, being and intellection; and in intellect, being and life. But in intellect all things ſubſiſt intellectually, in life vitally, and in being, according to true beings. For ſince every thing ſubſiſts, either, according to cauſe, or according to eſſence, or according to participation: and ſince in the firſt the reſt ſubſiſt according to cauſe; and in the ſecond, the firſt ſubſiſts through participation, and the third through cauſe: and in the third, natures prior to its own, ſubſiſt through participation; hence in *being*, *life* and *intellect* preſide. But ſince every thing receives its characteriſtic, according to hyparxis, and not according to cauſe (for cauſe pertains to other things, or to effects); nor yet according to participation (for it receives externally that which it participates): hence in being there is *true* * life and *true* intelligence, eſſential life and eſſential intellect. And in life, there is being according to participation; but intelligence according to cauſe. But both of theſe are vitally inherent in life: for its hyparxis is according to life. And in intellect there is both life and eſſence, through participation: but both theſe ſubſiſt intellectually. For the being and life of intellect is knowledge.

PROPOSITION CIV.

Every thing which is primarily eternal, has both its eſſence, and energy eternal.

FOR if it is primarily allotted the perpetuity of eternity, it does not partly participate of this, and partly not; but it entirely participates of perpetuity. For either participating according to energy, it does not participate according to eſſence: but this is impoſſible; ſince in this caſe, energy would be more excellent than eſſence. Or parti-

* Ὀντῶς in the original, which means indeed literally, *truly*. But the philoſophical reader will pleaſe to obſerve that as it is an adverb derived from the participle ὄν, or *being*; its full meaning is *truly according to being*. So that by *true life*, we muſt underſtand *life according to the truth of being*; and ſo of the reſt.

cipating according to eſſence, it does not participate according to energy. And thus that which is primarily eternal, will be the ſame with that, which primarily participates of time *. And time will primarily meaſure the eſſence of ſome things, but eternity which is more excellent than all time, will be the meaſure of nothing: ſince that which is primarily eternal, will not be contained by eternity according to energy †. Every thing, therefore, primarily eternal, has both its eſſence and energy eternal.

PROPOSITION CV.

Every thing immortal is eternal; but every thing eternal is not immortal.

FOR if that is immortal which always participates of life, and that which always participates of life, participates alſo of being, and that which is always vital is perpetual; hence every thing immortal is eternal. For that is *immortal* which does not receive death, and perpetually *lives*: but that is *eternal* which cannot receive non-being, and which always *is*. But if there are many beings more excellent and worſe than life, but which are not ſuſceptive of immortality, though they are perpetual beings; it follows that every thing eternal is not immortal. But that many perpetual beings; are not immortal is evident. For there are certain beings, deſtitute indeed of life; yet perpetual and incorruptible ‡: ſince as being is to life, ſo is that which is eternal to that which is immortal. For that life which cannot be taken away, is *immortality itſelf*. And being which cannot be deſtroyed, is *eternity itſelf*. But being is more comprehenſive than life: and hence that which is eternal is more comprehenſive than that which is immortal §.

* For if that which is primarily eternal, is eternal according to eſſence, but not according to energy, it will be the ſame with the world, which is the firſt participant of time. For the world is eſſentially eternal, becauſe though its parts are ſubject to change, yet conſidered as a whole, it is perpetually the ſame. But then it is not eternal in *energy*, but in *capacity* alone. For it ſubſiſts in a perpetual capacity of exiſtence; and its flowing eſſence is perpetually compoſed from the paſt, preſent, and future circulations of time.

† In the original it is κατ' ἀϊδιον, but it ſhould doubtleſs be read, according to our tranſlation κατ' ἐνεργειαν.

‡ Thus for inſtance the qualities which ſubſiſt about bodies are incorporeal, and conſequently eternal and incorruptible; but yet they are not immortal, becauſe they are deſtitute of life.

§ In the Greek θανατου is erroneouſly printed, inſtead of ἀθανατου, which the reader will evidently perceive muſt be the true reading. But though this is ſufficiently obvious to thoſe who underſtand the propoſition; yet Portus, who ſeldom attends to the meaning, has, from not rectifying this miſtake, given the moſt ridiculous tranſlation of this concluding ſentence, that can poſſibly be imagined. The original is: τὸ δὲ ἐν τῇ ζωῇ περιλαμβανόμενον, καὶ τὸν θανάτου, (lege ἀθανατου) ἄρα τὸ αἰῶνον. The tranſlation of Portus: "Illud vero, quod eſt, vitam, et mortem magis complectitur, *vel, ipſum vero eas, plura complectitur, et latius patet, quam vita et mors*. Ergo ipſum eternum eſt *illud, quod non recipit ipſum non eſſe, et quod ſemper eſt*; i. e. "But that which is, comprehends in a greater degree, life and death; or being itſelf comprehends more, and is of greater extent than life and death. Therefore, eternity itſelf, is that which does not receive non-being, and which always is."

PROPO-

PROPOSITION CVI.

The medium of every thing entirely eternal, both according to eſſence, and according to energy, and of that which has its eſſence in time; is that which is in a certain reſpect eternal, but which in a certain reſpect is meaſured by time.

FOR that which has its eſſence comprehended by time is entirely temporal: for this in a moſt primary manner, is allotted a temporal energy. But that which according to all things is temporal, is perfectly diſſimilar to that which is according to all things eternal. But all progreſſions ſubſiſt through ſimilars. There is, therefore, ſome medium between theſe. Hence either that is the medium which is eternal in eſſence, but temporal in energy; or the contrary. But this is impoſſible: for energy on this latter hypotheſis would be more excellent than eſſence. It remains, therefore, that the former hypotheſis muſt be the medium.

PROPOSITION CVII.

Every thing which is in a certain reſpect eternal, but in a certain reſpect temporal, is at the ſame time *being* and *generation*.

FOR every thing eternal, is being, and that which is meaſured by time is generation. And hence, if the ſame thing participates both of time and eternity, yet not according to the ſame, or after the ſame manner; this ſame thing will be, both being and generation, yet will not be both according to one of theſe alone *.

COROLLARY.

From hence it is evident that generation, ſince it has a temporal energy, depends on that which partly participates of being, and partly of generation; and which at once participates of eternity and time. But this is related to that which is eternal according to all things. But that which is eternal according to all things is related to eternity itſelf: and eternity itſelf is related to *being*, which is prior to eternity.

* That is neither according to time alone, nor eternity alone: but from the participation of both.

PROPOSITION CVIII.

Every thing which is particular in each order, is capable of participating in a twofold manner, that unity which is placed in a proximate ſuperior diſpoſition; either by its own proper totality, or through that which it contains, of a partial nature, and which is allied to ſomething particular, according to an analogy to the whole ſeries.

FOR if all things are converted through ſimilitude, the particular nature which ſubſiſts in an inferior order, is diſſimilar to that which in a ſuperior order is monadic, and total; and is as that which is particular to that which is univerſal, and as different orders are to each other. But this particular nature is ſimilar to a *whole* of the ſame ſeries, on account of a communion of peculiarity; and to that ſuperior proximately co-ordinated property, through an analogous ſubſiſtence. It is, therefore, evident that through theſe mediums a converſion from one to the other is effected, as through ſimilars, to that which is ſimilar *. For *particular*, is ſimilar to that which is *particular*, but that which is of the ſame ſeries is peculiar. And the univerſal, or whole which is placed above the ſeries, is diſſimilar according to each of theſe.

PROPOSITION CIX.

Every particular intellect participates of that unity, which is above intellect, and is the firſt; both through that which is *univerſal*, and through a *particular* unity, co-ordinated to its nature. And every particular ſoul, participates of univerſal intellect; both through *univerſal* ſoul, and a *particular* intellect. And every particular nature of body, participates of univerſal ſoul, both through *univerſal* nature, and a *particular* ſoul.

FOR every thing particular (by the preceding propoſition) participates of that unity placed in an order above it; either by its own proper univerſality; or by that particular nature which it contains, and which is co-ordinated to ſomething particular.

* Inſtead of ὡς δὲ ὁμοιῶν ἀνόμοιον, read ὡς δὲ ὁμοιῶν ἑις ὅμοιον. And read with aſtoniſhment the verſion of Portus; who not perceiving the error of the text, has made nonſenſe of the paſſage, as uſual.

PROPO-

PROPOSITION CX.

Of all things placed in order, according to every series, such as are first, and are conjoined with their unity, may participate of those which are prominately established in a superior order, through analogy. But such as are more imperfect, and remote from their proper principle, are not naturally adapted to participate of their superiors.

FOR because some things are allied to their superiors being allotted in their proper order, a more excellent and divine nature; but others are more distant, because they are allotted a secondary and ministerial, but not a primary and principal progression in every series: hence some things are naturally conjoined with those of a superior order; but others are not conjoined with a superior order. For all things are not of equal dignity, though they belong to the same distribution. For there is not one reason, of all things: but all things proceed from one, and return to one, from their own proper unity. And hence they are not allotted the same power. But some are able to receive continually the participations of their superiors. But others of a dissimilar nature, are deprived of such a power, through their far distant progressions from their principles.

PROPOSITION CXI.

Of every intellectual series, some are divine intellects receiving the participations of the gods; but others are intellects alone. And of every animastic series (i. e. a series composed of souls) some are intellectual souls, depending on their proper intellects; but others are souls alone. And of every corporeal nature, some have supermally-presiding souls, but others are natures alone, deficient of the presence of souls.

FOR in every series the whole genus is not naturally adapted to depend on that which is prior to itself; but this belongs to that more perfect nature which the genus contains, and which is sufficient to coalesce with superior natures. Hence every intellect is not connected with a god: but this belongs to the highest and most uniform intellects,

lects, (i. e. to intellects which participate moſt of unity). For theſe are allied to the divine unities. Nor do all ſouls participate of participable intellect; but this belongs to ſuch as are moſt intellectual. Nor do all corporeal natures enjoy the preſence of ſoul, and of that ſoul which is participated; but ſuch only as are more perfect and rational. And the mode of demonſtration is the ſame in all.

PROPOSITION CXII.

Firſt natures in every order, poſſeſs the form of things prior to themſelves.

FOR the higheſt genera in every order, are conjoined with their ſuperiors by ſimilitude, and through a continuation of the progreſſion of univerſals. Hence ſuch as ſuperior natures are primarily, ſuch is the form which things firſt in every order are allotted, and which is allied to the nature of ſuperiors. And through the peculiarity of their ſubſiſtence, they appear ſuch as natures prior to themſelves.

PROPOSITION CXIII.

Every divine number is *unical* (ἑνιαῖος), i. e. poſſeſſes the form of unity.

FOR if a divine number has the one itſelf, as its preceding cauſe, in the ſame manner as an intellectual number has intellect, and an animaſtic number (ψυχικὸς, or number poſſeſſing the form of ſoul) ſoul as its preceding cauſe, and if multitude is every where analogous to its cauſe; it is evident that a divine number alſo, is uniform. Since *the one itſelf*, is *the deity*: and this becauſe *the good itſelf* is the ſame with *the one*. For the *good itſelf*, and *the deity* are the ſame: ſince that above which there is nothing, and which all things deſire, is *the deity*. And that from which all things proceed, and to which all things tend, is *the good*. If, therefore, there is a multitude of gods, it is an uniform multitude. But that there is a multitude is evident: ſince every principal cauſe is the leader of a proper multitude *; and to this multitude it is ſimilar and allied.

PROPO-

* To ſuch as underſtand theſe Elements, this argument for the exiſtence of a multitude of gods, is perfectly demonſtrative and clear. Indeed as every production of nature poſſeſſes the power of generating its ſimilar, it is much more neceſſary that the firſt cauſe of all ſhould generate a multitude the moſt ſimilar to himſelf, that can poſſibly be conceived. For every being produces that which is ſimilar prior to the diſſimilar; as indeed a contrary mode of proceeding would be abſurd and impoſſible. The immediate or firſt productions therefore of the firſt god, muſt be a multitude of gods: or otherwiſe his firſt progeny would not be perfectly ſimilar to himſelf. Nor does this doctrine, in any reſpect derogate from the dignity of the ſupreme god, as the ignorant ſuppoſe;

PROPOSITION CXIV.

Every god is a ſelf-perfect unity: and every ſelf-perfect unity is a god.

FOR if there is a two-fold number of unities, as we have previouſly demonſtrated, and ſome of theſe are ſelf-perfect, but others illuminations emanating from the ſelf-perfect unities; and if a divine number is allied, and of a ſimilar nature to the good; hence the gods are ſelf-perfect unities. And on the contrary every ſelf-perfect unity is a god. For as unity is moſt excellently allied to the one itſelf, and that which is ſelf-perfect to the good, and through both the one, and the good, participates of a divine property; ſo likewiſe that which is ſelf-perfect is a god.

COROLLARY.

But if a god was a unity, yet not a ſelf-perfect unity; or a ſelf-perfect hypoſtaſis, yet not a unity, he would be placed in another order, on account of a mutation of his property.

PROPOSITION CXV.

Every god is ſuper-eſſential, ſupervital, and ſuper-intellectual.

FOR if every god is a ſelf-perfect unity, but each of theſe (viz. eſſence, life, and intellect) is not a unity, but united; it is evident that every god, is above eſſence,

poſe; but on the contrary tends to exalt his majeſty, and evince the ineffable beneficence and perfection of his nature. For though it eſtabliſhes a multitude of gods, yet it teaches that they are dependant on the firſt, who is perfectly incomprehenſible, and without participation. So that it leads us to conſider the ſubordinate deities, as ſo many leſſer luminaries ſhining before the preſence of the ſun of good, and encircling with awful grandeur his ineffable radiance, and occult retreats. And that this doctrine fully diſplays his ſuperlative goodneſs, is ſufficiently manifeſt; ſince by a contrary aſſertion we muſt aſcribe imperfection to the fountain of excellence, and leave deity impotent and barren. Indeed this opinion is ſo natural and reaſonable, that, excepting the Jews, it was embraced by every nation of the ancient world. Nor ought we to wonder that the Jews were an exception to the univerſal conſent of mankind, in this important particular. For with reſpect to the origin of this deſpicable, *though choſen people*, it was ſcarcely known to the Heathens; "the greater part of whom," as Dr. Burneſt juſtly obſerves (De Origin. Rer. cap. 7.) "ſuppoſed them to be natives of Egypt, ſprung from the ſame root, or conſidered them as a vile, and inconſiderable people." And as to their learning we may remark with the ſame author, "that they never excelled in philoſophical, or mathematical knowledge; and never gave the world a famous example of the ſtrength of human wit; from whence aroſe that bitter reproach of Apollonius, *That the Jews were the moſt trifling of all the barbarians, and that they were the only people who had never found out any thing uſeful for life.*" The example of the Jews, therefore, ought to be ſo far from deciding againſt Polytheiſm, that when their character is impartially eſtimated, it will ſtrengthen the evidence of its reaſonableneſs and truth.

life, and intellect. For if theſe differ from each other, but all are in all, every one of theſe being *all things* will not be *one* alone. Beſides, if the firſt deity is ſuper-eſſential, but every god, ſo far as a god is of the firſt ſeries *; hence every god will be ſuper-eſſential. But that the firſt deity is ſuper-eſſential is evident: for *eſſence* is not the ſame with *unity*; nor is *to be*, and *to be united* one and the ſame. But if *eſſence*, is not the ſame with *unity*, that which is firſt will either be both of theſe, and ſo will not be *one* alone, but ſomething beſides *one*, and will participate of *the one*, without being *the one itſelf*; or it will be either of theſe. But if indeed it is eſſence, it will be indigent of the one. But it is impoſſible that *the good*, and *the firſt* ſhould be indigent. It will, therefore, be *the one* alone; and will conſequently be ſuper-eſſential. But if every thing ſubſiſting in a primary manner, confers the property of its primary ſubſiſtence on the whole ſeries; hence every divine number is ſuper-eſſential. For every principal cauſe produces ſimilars prior to diſſimilars. If, therefore, the firſt god is ſuper-eſſential, all the gods, will be ſuper-eſſential: for by this means they will be perfectly ſimilar. But if they were eſſences they would be produced from the firſt eſſence, as the unities of eſſences.

PROPOSITION CXVI.

Every deity, except *the one*, is participable.

FOR that *the one* is imparticipable, is evident; ſince if he participated any thing, and thus became dependant on ſome other nature, he would no longer be the cauſe of all things; both of ſuch as are prior to beings, and of beings themſelves. But that other

* Though the firſt cauſe or *the one itſelf*, confers on every thing a proper ſymbol of his ineffable nature; yet this occult unity, or impreſſion is not divine in things ſubject to generation and decay, but in true eſſences alone, in the number of which rational ſouls muſt be ranked. Such of theſe, however, as are of a partial nature, and on this account are not the immediate progeny of *the firſt one*, do not contain a unity which can be called a god; becauſe they are connected with motion, and are in a certain reſpect compoſite eſſences. But where there is a moſt true eſſence, as in ſeparate intellects, and celeſtial ſouls, the unity of each is a god. And indeed on account of theſe unities, which are as it were expreſſive characters of the firſt unity, the eſſences of the gods contain all things, and extend their providential care to every part of the univerſe, with unbounded beneficence, and immaculate power. But theſe divine unities are perpetually united to the firſt one, like rays to light, and lines to a centre. They likewiſe ſubſiſt in the moſt perfect union with each other. For ſince union in other natures is effected through the power of unity, theſe divine unities muſt be much more cloſely united, through their ſubſiſting much nearer to the firſt and moſt perfect one. Every divine unity, therefore, though it is neither eſſence, nor obnoxious to eſſential multitude, yet abides in eſſence; or is rather the ſummit, and as it were bloſſom of eſſence. And as every thing is eſtabliſhed in its proper ſpecies through form, and as we derive our being through ſoul; ſo every god is a deity, from the ſecret unity which he contains. Hence theſe divine unities ſubſiſt in the intelligible world, and in the eſſences of the gods, like ſo many ſplendid lamps in diaphanous ſpheres, mingling their rays with an ineffable union, energy, and conſent. And ſituated in moſt admirable order, in the veſtibule of the good, they occultly ſignify divine ſilence, and ſolitary beauty; and perſpicuouſly announce to poſterior natures the awful ſanctuary of their incomprehenſible cauſe.

unities

unities are participants we ſhall now demonſtrate as follows: For if there is another imparticipable unity after the firſt, in what does it differ from *the one?* For it either ſubſiſts in the ſame manner as that: but how in this caſe, is the one ſecond, and the other firſt? Or it does not ſubſiſt in the ſame manner. And ſo *that* will be the one itſelf, but *this* will be both *one*, and *non-one*. But this non-one, if it is no hypoſtaſis (or ſubſiſtence) will be one alone. But if it is ſome other hypoſtaſis beſides the one, *the one* will be participated by non-one: and that will be a ſelf-perfect one, by which it is conjoined. Hence this again, will be the deity. But that which ſubſiſts as non-one, will ſubſiſt in the participation of the one. Every unity, therefore, which ſubſiſts after *the one* is participable, and every god is participable.

PROPOSITION CXVII.

Every god is the meaſure of beings.

FOR if every god poſſeſſes the form of one (ἑνάδος), he defines and meaſures all the multitudes of beings. For ſince all multitudes, are naturally indefinite, they are bounded by *the one*. But that which is one, meaſuring and bounding whatever it ſupervenes, is willing to lead into bound, by its terminating power, whatever is indefinite. For that which is one becomes uniform through participation: but that which is indefinite recedes from the one, through its interminable and infinite nature. And by how much the leſs it is uniform, by ſo much the more is it indefinite and immenſe. And hence every multitude of beings, is meaſured by the divine unities.

PROPOSITION CXVIII.

Every thing which is in the gods, according to their idioms (or properties), pre-exiſts in their natures. And the property of the gods, is uniform and ſuper-eſſential. And hence all things are contained in the gods, uniformly, and ſuper-eſſentially.

FOR if every thing ſubſiſts in a three-fold manner, either through cauſe, or through hyparxis, or through participation, but the firſt of all numbers is the divine number; hence nothing will be inherent in the gods according to participation. But all things will reſide in them, either through hyparxis, or through cauſe. But likewiſe, whatever the gods, as the authors of all things previouſly receive, they previouſly re-

ceive in a manner convenient, and appoſite to their union. For every thing which preſides over ſecondary natures according to cauſe, naturally contains the cauſe of inferiors. All things, therefore, are in the gods uniformly, and ſuper-eſſentially.

PROPOSITION CXIX.

Every god ſubſiſts according to a ſuper-eſſential goodneſs, and is good neither through habit, nor through eſſence.

FOR both habit and eſſence are allotted an order ſecondary and remote from the gods: but theſe have a ſuper-eſſential ſubſiſtence. For if the firſt one, is alſo the good, and ſo far as the one is the good itſelf, and ſo far as the good the one itſelf; hence every ſeries of gods, is both uniform, and beneficent (ἀγαθοειδὴς), on account of one property alone, and not through more than one. But every god, ſo far as a unity, is alſo a goodneſs, and ſo far as a goodneſs is alſo a unity; and on account of progreſſion from the firſt is alſo beneficent and uniform. For the firſt cauſe of all, is both the one itſelf, and the good; and conſequently all the gods are unities and goodneſſes. As therefore *the one* of the gods is ſuper-eſſential, ſo likewiſe *the good*, which they contain, is ſuper-eſſential, and is nothing elſe than *one*. For every god is not firſt of all ſomething different from good, and afterwards *good*; but is good alone. Nor is firſt of all ſomething beſides *one*, and afterwards *one*; but is *one* alone.

CONCERNING PROVIDENCE.

PROPOSITION CXX.

Every god contains in his hyparxis a providence of the univerſe; and primary providence reſides in the gods.

FOR all things poſterior to the gods, provide through the communion of the gods: but providence is connate with the gods. For if to communicate good to things provided for, is the peculiar employment of a providential property, but all the gods are goodneſſes; hence they will either communicate themſelves to nothing, and ſo there will be no good in ſecondary natures (for whence can that which ſubſiſts by participation emanate, but from natures which are primarily endued with properties); or if they communicate, they will communicate good, and through this communication provide for the univerſe. Providence, therefore, primarily ſubſiſts in the gods. For where can

can an energy prior to intellect abide, but in ſuper-eſſential natures? And hence providence as the name indicates, is an energy prior to intellect. The gods, therefore, on account of their being, and becauſe they are goodneſſes, provide for all things *; and fill all things with that goodneſs which is prior to intellect.

PROPOSITION CXXI.

Every thing divine has for its hyparxis goodneſs itſelf, and poſſeſſes an uniform power, and a knowledge occult, and incomprehenſible by all ſecondary natures.

FOR if it provides for the univerſe, it contains a power comprehenſive of the things for which it provides; and by this invincible and indiſcribable power, it fills all things with itſelf, and ſubjects every thing to its own nature. For every principal and ruling cauſe, rules through its abundance of power, and contains according to nature. There is, therefore, a primary power in the gods, which does not govern ſome things, and not others, but it equally aſſumes in itſelf in a primary manner, the powers of all beings: and this is neither an eſſential power, nor much more uneſſential, but it is connate to the hyparxis of the gods, and is ſuper-eſſential. But likewiſe the boundaries of all cognitions, pre-exiſt uniformly in the gods. For all other cognitions ſubſiſt, on ac-

* We may farther infer the neceſſity of providence in the gods, from conſidering that as they are the producing cauſes of all things, ſo all things abide, and are radically eſtabliſhed in their natures. For where can any thing ſubſiſt, which is not contained in their unknown and all-pervading comprehenſions? But if this be the caſe, ſince all things are in reality the offspring of the gods, they muſt continually be the objects of their providential exertions. For as goodneſs is the characteriſtic of theſe divine natures, it is impoſſible that they ſhould abandon their progeny, or ceaſe to impart their beneficent, unenvying, and all-powerful communications. Nor muſt we think that theſe providential exertions are laborious to the gods; ſince, as Proclus well obſerves, (Theol. Plat. p. 41.) that which is according to nature, is not laborious to any thing. "For neither (ſays he) is it laborious for fire to give warmth, nor for ſnow to refrigerate, nor for bodies themſelves to energize according to their peculiar powers. Nor prior to bodies, is it laborious to natures themſelves to nouriſh, or generate, or increaſe: for theſe are the operations of natures. Nor again, prior to theſe, is it laborious to ſouls to exert their peculiar energies: for many of their energies are attended with delight, many are the reſult of their eſſence; and many motions are produced by their preſence alone." Hence if the communication of good naturally belongs to the gods, providence alſo is natural to theſe divinities, which they exert in a tranquil, unpolluted, and incorporeal manner.

Should it be enquired in what manner providence operates, the following beautiful paſſage from Proclus on the Parmenides, as cited by Ficinus, in his commentary on that dialogue, will give us abundant ſatisfaction: "Let us conceive (ſays he) a ſhip agitated by the winds and waves, and let us ſuppoſe, that the imagination of ſome one is ſo powerful, that while he imagines the ſea, the ſea immediately flows; that while he imagines the ſhip, the ſhip is conſtructed; and that the winds and waves, ariſe agreeable to his imagination, and as the conſequences of its vehement energy. Now it is evident, that ſuch a one would not be compelled, in ſurveying theſe particulars, to employ a confuſed and diſtracted viſion; but both his knowledge and operation, would equally ſubſiſt in a uniform manner. And ſuch is the ſimplicity of divine intelligence, with reſpect to the intuition and fabrication of inferior concerns."

count

count of divine cognition, which is abſtracted from the univerſality of things. And this cognition is neither intellectual, nor much leſs does it belong to the cognitions poſterior to intellect: but according to its divine property, it is conſtituted above intellect. If then this knowledge is divine, it is an occult and uniform cognition. But if the power is divine, it is uncircumſcribed by all things, and, in a ſimilar manner, comprehenſive of all things. But if the goodneſs is divine, it gives bound to the hyparxis of the gods. For if all things are contained in the gods, and among theſe knowledge, power, and goodneſs; and if their hyparxis is characterized with that which is beſt, the ſubſiſtence alſo of the gods will take place according to the beſt: and this is no other than goodneſs.

PROPOSITION CXXII.

Every thing divine both provides for ſecondary natures, and is ſeparated from the things for which it provides; providence neither remitting its unmixed and uniform excellence, nor a ſeparate union obſcuring providence.

FOR the gods abiding in their uniform nature, and hyparxis, fill all things with their power. And every thing which is able to participate, enjoys the goods, which it is capable of receiving according to the meaſure of its proper ſubſiſtence; the gods in the mean time, through being itſelf, or rather through a nature prior to being, pouring their illuminations on every thing which exiſts. For ſince they are no other than goodneſſes, they abundantly confer good upon all things, through being itſelf; not making a diſtribution according to a reaſoning energy, but becauſe theſe receive according to their dignity, and thoſe confer according to their hyparxis. Hence, in their providential operations, they receive no impediment from the natures for which they provide: for they benefit all things through their very being itſelf. But every thing which operates eſſentially, operates without habitude or reſpect: for reſpect, is an addition to being itſelf: and is on this account contrary to nature. Nor again, becauſe they are ſeparate, do they take away their providential care; for thus they would remove (which it is unlawful to ſay) their peculiar hyparxis whoſe property is goodneſs. For the communication of good extends to every thing capable of its participation: and that which is greateſt, is not that which is endued with a form of good, but that which is beneficent. This beneficent nature, therefore, either no being will poſſeſs, or the gods will poſſeſs it prior to beings. For to goods ſubſiſting through communication, it is impoſſible that a greater good ſhould be preſent, but a leſs good only, to ſuch goods as are firſt.

PROPO-

PROPOSITION CXXIII.

Every thing divine, on account of its ſuper-eſſential union, is ineffable and unknown to all ſecondary natures; but it is comprehenſible, and knowable by its participants. And hence *that which is firſt*, is alone entirely unknown, becauſe it is imparticipable.

FOR all knowledge ſubſiſting through reaſon, belongs to *beings*, and in *beings* poſſeſſes the apprehenſion of its truth: for it is converſant with *conceptions*, and ſubſiſts in intellections. But the gods are above all beings. Hence that which is divine, is neither to be apprehended by opinion, nor by a rational energy, nor by intellection. For every being, is either ſenſible, and on that account the object of opinion, or true being, and on that account intelligible. Or it ſubſiſts between theſe, and is at the ſame time *being*, and *generable*, and is on this account the ſubject of a rational energy. If, therefore, the gods are ſuper-eſſential *, and prior to beings, there can neither be any opinion of their natures, nor ſcience, nor cogitation, nor intellection. But they are known by dependant natures in a manner correſpondent to their properties: and this by a neceſſary conſequence. For the diverſities of participants are divided together with the properties of the things participated. Nor does every thing participate every thing: for neither is there a compoſition of things perfectly diſſimilar, nor does any thing participate fortuitouſly of another: but a kindred nature is conjoined with every thing kindred, and derives its progreſſion from that to which it is allied.

PROPOSITION CXXIV.

Every god knows partible natures, in an impartible manner, things ſubſiſting in time without time, things not neceſſary, neceſſarily, things mutable, immutably; and univerſally, all things, in a manner more excellent than the order of the things known.

FOR if every thing which is preſent with the gods is preſent, according to their *characteriſtic*; it is evident that the knowledge of the gods will not ſubſiſt according to

* The reader muſt remember that the gods are alone ſuper-eſſential, through their *unities*, which are the characteriſtics of their natures: for as irrationality is the eſſential ſignature of a brute, and rationality of a man; ſo a divine unity, is the invariable characteriſtic of a god.

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the nature of things inferior, but according to the ſingular excellence which the gods contain. Their knowledge, therefore, of multiplied, and paſſive natures, will be uniform and without paſſion. Likewiſe if that which is the object of cognition, is partible, divine knowledge will be impartible. If the ſubjects are mutable, the gnoſtic energy of the gods will be immutable: if contingent, divine knowledge will be neceſſary; and if indefinite, definite. For that which is divine does not receive knowledge into itſelf from ſubordinate natures, that ſo cognition may correſpond to the object of knowledge; but inferiors receive their indefinite ſubſiſtence, about the terminated nature of the gods, are changed about their immutability, receive with paſſivity that which is impaſſive, and temporally, that which ſubſiſts without time. For it is poſſible that ſubordinate, may be ſurpaſſed by more excellent natures: but it is not lawful for the gods to receive in themſelves any thing from natures inferior to their own.

PROPOSITION CXXV.

Every god proceeds through all ſecondary natures, in the order from which he begins to indicate himſelf. Always indeed multiplying and dividing his communications, yet preſerving the characteriſtic of his own proper ſubſiſtence.

FOR ſince progreſſions are produced through remiſſion, things firſt, every where multiply into the decrements of ſecondary natures. But proceeding according to a ſimilitude to their producing cauſes, they receive the ſame ordination; ſo that the whole, is in a certain reſpect the ſame and different, and that which proceeds, with that which abides. For on account of its remiſſion, it appears different, but on account of its coherence with the whole, it does not depart from identity. But ſuch as *that* is among firſt natures, ſuch is the ſubſiſtence of *this* among things ſecondary, and ſuch is its preſervation of the indiſſoluble communion of the ſeries. Every god, therefore, appears in a manner adapted to the orders in which he exhibits his preſence: but he proceeds from thence even to the laſt of things, through the generative power of primary natures. But he always multiplies the progreſſion from one into multitude: but preſerves identity, in the progreſſion, on account of the ſimilitude of the progreſſions to the governing and firſt operative cauſe of every ſeries.

PROPO-

PROPOSITION CXXVI.

Of every deity, he is the more univerſal, who is nearer to the one: but he is more particular, who is more diſtant.

FOR he who is the cauſe of more effects, is nearer to the cauſe of all, but he who produces fewer effects, is more diſtant. And he who is the author of many is more univerſal, but he who produces fewer effects, is more particular. And each of theſe is a unity. But the one is greater, and the other leſs according to power. And the more particular goods are generated from ſuch as are more univerſal, without the latter receiving any diviſion, (for they are unities) or alteration (for they are immoveable), or being multiplied according to habitude (for they are unmixt). But they generate from themſelves through an abundance of power, ſecondary progreſſions, diminiſhed from ſuch as are firſt.

PROPOSITION CXXVII.

Every thing divine is primarily, and eſpecially ſimple, and through this is moſt ſufficient.

FOR that it is ſimple, is evident from its unity: for the whole is eminently uniform. But a nature of this kind, is moſt eminently ſimple. But that it is likewiſe moſt ſufficient, may be learnt by any one who conſiders, that a compoſite, is indigent, though not of things external to its nature, yet of thoſe from which it is compoſed. But that which is moſt ſimple, and uniform, and one, is the ſame with *the good*, in which good eſtabliſhing itſelf, it becomes moſt ſufficient. But every thing divine, is of this kind. And hence it is neither indigent of externals, becauſe it is goodneſs itſelf, nor of things requiſite to compoſition, becauſe it is uniform.

PROPOSITION CXXVIII.

Every god, who is participated by natures nearer to his own, is *immediately* participated: but when he is participated by far diſtant natures, this is effected through *mediums* more or leſs numerous.

FOR the former, ſince they are by their alliance uniform, are on this account enabled to participate the divine unities. But ſuch as through their diminution, and

extenſion into multitude become far diſtant, are indigent of other things more united, that they may participate ſuch as are no longer united, but are eſſential unities. For multitude united, ſubſiſts between eſſential unity, and divided multitude. And thus united multitude is able to coaleſce with unity, through *union*; but is at the ſame time allied to divided multitude, through *the manifeſt appearance of multitude.*

PROPOSITION CXXIX.

Every divine body is divine, through a divine ſoul. But every ſoul, is divine, through a divine intellect. And every intellect is divine through the participation of a divine unity. And *unity* indeed, is a god from itſelf (αὐτόθεν θεος) but intellect, is moſt divine: and ſoul is divine, but body deiform, or endued with a divine form.

FOR if every number of gods is above intellect, but participations are effected through kindred and ſimilar natures, an impartible eſſence will firſt of all participate the ſuper-eſſential unities. But in the ſecond place things conjoined with generation. And in the third place, generation itſelf. And each particular will participate through its proximate ſuperior; the peculiarity of the gods proceeding even to the extremities of things in participants, through mediums allied to their natures. For unity confers on the firſt intellect, its own illuſtrious power among divine concerns, and cauſes this intellect to be like itſelf, according to an uniform multitude. But through intellect it is preſent alſo to ſoul, adapting and inflaming its conjunction with intellect, when this intellect is participable. And by the reſounding echo * as it were of ſoul, it imparts its idiom or peculiarity to body, if it is a body participating in any reſpect of ſoul. And thus body becomes not only animated, and intellectual, but alſo divine. For it receives life and motion from ſoul, but indiſſoluble permanency from intellect, and divine union from participated unity. For each of theſe communicates its ſubſiſtence to ſubſequent natures.

* By this *ἀνάκλασμα*, or *reſounding echo of ſoul*, we muſt underſtand that vital quality, by which the ſoul is united to the body; and which is nothing more than the extreme image and ſhadow of the ſoul. The neceſſity of ſuch a connecting quality, will eaſily appear, from conſidering that an *incorporeal* nature, like that of ſoul, cannot be connected with *body*, without a vital medium. In conſequence of this we may conſider with Plotinus, (Ennead. iv. lib. 4.) the animated body as reſembling illuminated and heated air: and the pains and pleaſures of the body, will be converſant with this ſhadow of the ſoul.

PROPOSITION CXXX.

In every divine order, things firſt, are more exempt from the natures proximately placed under them, than theſe laſt are from things ſubſequent: and ſecondary natures are more dependant on their proximate ſuperiors, than following natures are dependant on theſe.

FOR by how much the more uniform, and univerſal any thing is, by ſo much the more is it allotted an excellence greater than ſubſequent natures: and by how much the more it is diminiſhed according to power, by ſo much the more is its alliance encreaſed with things poſterior to its nature. And ſublimer natures are indeed more united with their more principal cauſes: but inferiors are leſs united. For it is the property of a greater power to be more exempt from its inferiors, and to be more united with more excellent natures. And on the contrary to recede more, and to be paſſive together with theſe, implies a diminution of power. And this indeed happens to ſecondary natures in every order, but not to ſuch as are firſt.

PROPOSITION CXXXI.

Every god begins his own proper energy from himſelf.

FOR he firſt exhibits in himſelf the peculiarity of his preſence in ſecondary natures, becauſe he likewiſe communicates himſelf to others, according to his own exuberant plenitude. For neither is defect, nor plenitude alone, peculiar to the gods: ſince every thing deficient is imperfect; and it is impoſſible that the imperfect, can cauſe any thing to be perfect. But that which is full, is alone ſufficient, and is not yet prepared for communication. It is requiſite, therefore, that the nature which fills, and extends its beneficence to others, ſhould be above meaſure full. Hence, if that which is divine, fills all things through itſelf, with the goods which it contains in itſelf, every thing divine is beyond meaſure full. And if this be the caſe, it will primarily poſſeſs in itſelf, the property which it confers on others. For thus it will extend to others the communications of over-flowing goodneſs.

PROPOSITION CXXXII.

All the orders of the gods, are bound in union, by a medium.

FOR all the progreſſions of beings, are effected through ſimilars; and much more is it neceſſary that the orders of the gods, ſhould poſſeſs an indiſſoluble continuity, becauſe they ſubſiſt uniformly, and are terminated according to one principal cauſe of their ſubſiſtence. Their remiſſions, therefore, take place in an united manner, and through that ſimilitude alone which is found among beings, of things ſecondary to ſuch as are firſt: and this becauſe the ſubſiſtence of the gods, much more conſiſts in union, than the ſubſiſtence of beings. All the divine genera, therefore, are bound together by proper mediums; ſo that firſt natures do not immediately proceed into progreſſions entirely different, but through genera common to each, and of which they are the immediate cauſes. For theſe genera combine the extremes into one union, being ſubjected to ſome, through an affiance of nature, but proximately ſeparated from others: and they preſerve the well-ordered progeny of divine cauſes.

PROPOSITION CXXXIII.

Every god is a beneficent unity, or a goodneſs unific (ἑνοποιὸς); and each poſſeſſes this hyparxis, ſo far as a god. But the firſt god is ſimply *good*, and ſimply *one*. And every god poſterior to the firſt, is a certain goodneſs, and a certain unity.

FOR a divine property or idiom diſtinguiſhes the unities and goodneſſes of the gods: ſo that every god confers goodneſs on all things, according to a certain characteriſtic of goodneſs; ſuch as that of *perfecting*, or *containing*, or *defending*. For each of theſe is a certain good, but not every good. But that which is firſt primarily eſtabliſhes a uniform cauſe. And this is no other than the good, conſtitutive as it were of all goodneſs. For all the hyparxes of the gods are not together equal to *the one*; ſo great is the ſuper-eminence of *the firſt*, with reſpect to the multitude of the gods.

PROPOSITION CXXXIV.

Every divine intellect, *underſtands* as *intellect*, but *provides* as *a god*.

FOR to poſſeſs a knowledge of beings, and a perfection in intellectual conceptions, is the property of intellect. But it is the province of a god to exerciſe a providential care,

care, and to fill all things with good. But this communication, and repleniſhing, ſubſiſts through a union of the things repleniſhed, with natures prior to their own. And intellect imitating this, becomes in its intellections the ſame with intelligibles. So far, therefore, as a divine intellect provides, it is a god; becauſe providence is an energy prior to intellect. Hence, as a god, it communicates itſelf to all things; but as intellect, it is not preſent to all things. For a divine unity, extends beyond the progreſſions of an intellectual property. And this will be evident by conſidering, that natures void of intelligence, deſire to provide, and to participate ſomething of good: and this becauſe all things do not deſire intellect, even among ſuch as are capable of its participation; but all things deſire good, and haſten to acquire its poſſeſſion.

PROPOSITION CXXXV.

Every divine unity is immediately participated by ſome being; and every thing which is deified, is extended to one divine unity; and the number of the participating genera of beings is the ſame as that of the participated unities.

FOR neither two, or more unities are participated by one being *. For how is it poſſible, that when the properties, which the unities contain, are changed, that which is connate to each, can remain without alteration; ſince conjunction ſubſiſts through ſimilitude? Nor is one unity participated in a diviſible manner by many beings: for many beings are unconjoined with unity; both conſidered as beings, with reſpect to that which is prior to beings, and as multitude to unity. But it is requiſite that the participant, ſhould be partly ſimilar to that which it participates, and partly different and diſſimilar. Since, therefore, that which participates, is ſomething belonging to beings, but unity is ſuper-eſſential, and the two are on this account diſſimilars; it is requiſite that *that* which participates ſhould be one, that by this means it may become ſimilar to the participated one; though the latter is one, becauſe it is a unity, but the former is one, becauſe it is paſſive to the communications of one, and is united through its participation.

* This muſt be underſtood of immediate participation; and on this hypotheſis, it is certainly true, that neither two or more unities are participated by one being. For ſince there is an order among the unities, and ſome are more univerſal than others, two cannot be immediately participated by one being, without an alteration taking place in the ſubſiſtence of each. This is evident from the ſtrict ſuppoſition, in which it is proved that *all the orders of the gods are bound in union by a medium*: and conſequently ſince all the unities are connected by proper mediums, it is impoſſible that any two can be immediately participated.

PROPO-

PROPOSITION CXXXVI.

Every god having a more univerſal ſubſiſtence, and being placed nearer to *the firſt*, is participated by a more univerſal genus of beings. But every god who is more particular and remote, is participated by a more particular genus of beings. And as being is to being, ſo is unity to divine unity.

FOR if the number of unities, is the ſame with that of beings, and on the other hand one unity is participated by one being; it is evident that the order of beings proceeds according to the order of unities, aſſimilated to an order prior to that of beings. And more univerſal beings coaleſce with more univerſal unities, but more particular beings, with more particular unities. For if this be not the caſe, diſſimilars will again be joined with diſſimilars, and diſtribution will not ſubſiſt according to dignity of nature: but both theſe caſes are impoſſible; ſince the one itſelf, and a proper meaſure, through the divine unities illuminates and ſupervenes all other natures. Much more, therefore, will there be an order of participation in the divine unities; ſimilars depending on ſimilars according to the power which they contain.

PROPOSITION CXXXVII.

Every unity, together with *the one* conſtitutes being participating of its nature.

FOR *the one*, as it is hypoſtatic, (ὑποστατικὸν) or conſtitutive of all things, ſo likewiſe it is the cauſe of participated unities, and of beings depending on unities. But the unity belonging to every being, produces the property, which ſhines forth to view in that particular being. And *the one*, indeed, is the cauſe of *ſimple being*; but *unity* is the cauſe of alliance, becauſe it is connate to *the one*. Hence unity, is that which of itſelf defines the being, which is its participant, and *eſſentially* exhibits in it a *ſuper-eſſential* characteriſtic. For univerſally, from that which is primary, that which is ſecondary obtains its ſubſiſtence. If, therefore, there is any ſuper-eſſential property of deity, it muſt belong to being, which participates it eſſentially.

PROPO-

PROPOSITION CXXXVIII.

Of all things which participate of a divine property, and which are deified, the firſt and higheſt is *being itſelf*.

FOR if being is above intellect and life, as we have demonſtrated, and is the moſt abundant cauſe after the one; hence *being* will be the higheſt after *the one*. For it is more uniform than intellect and life, and is on this account more venerable. But there is no other prior to this, except *the one*: for what beſides *the one*, can be prior to uniform multitude? But *being itſelf* is uniform multitude, becauſe it conſiſts from *bound* and *infinite*. And univerſally, ſuper-eſſential being * is prior to eſſence. For in the illuminations which are imparted to ſecondary natures, *the one* alone extends beyond *being*. But *being* ſubſiſts immediately after *the one*. For that which is *being* in capacity, and is not as yet *being* in energy, is nevertheleſs according to its nature one. And the being, which ſubſiſts after *the one*, is being in energy. Among the principles of being, therefore, *non-being* † ſubſiſts immediately above being, as ſomething more excellent, and no other than the *one itſelf*.

PROPOSITION CXXXIX.

All the participants of the divine unities originate from *being*, and end in a *corporeal nature*.

FOR being is the firſt of participants, but body the laſt: for we ſay that there are divine bodies. For the higheſt of all genera are attributed to the gods, whether they are bodies, ſouls, or intellects; as in every order, things analogous to the gods, contain and preſerve ſecondary natures, and every number is a whole, containing all things in itſelf according to that whole which is contained in a part, and poſſeſſing before all things a divine characteriſtic. The divine genus, therefore, ſubſiſts both *corporeally*, and *animaſtically* (or according to the nature of ſoul ψυχικῶς) and *intellectually*: and it is evident that all theſe are divine through participation. For that which is primarily divine ſubſiſts in the unities. The participants, therefore, of the divine unities, originate from being, but end in a corporeal nature.

* For as being itſelf, is no other than the higheſt order of the gods and the moſt uniform multitude, and as the characteriſtic of every god is a divine unity; hence the characteriſtic of being itſelf, will be the unity proceeding from bound. But as all the divine unities are ſuper-eſſential; hence *being itſelf* according to its characteriſtic will be ſuper-eſſential.

† For as matter is deſervedly called *non-being*, becauſe it is *worſe* than all things; in like manner this appellation is proper to the firſt cauſe, as he is *better* than all things.

PROP. C-

PROPOSITION CXL.

All the powers of divine natures, having a ſupernal origin, and proceeding through proper mediums, extend to the extremity of things, and to places ſituated about the earth.

FOR nothing intercepts theſe powers, and reſtrains their univerſal preſence; becauſe they are in no reſpect indigent of places and intervals, on account of their invincible excellence in all things, and a preſence every where pure and unmixed. Nor is that which is adapted to the participation of theſe powers, prohibited from participation; but as ſoon as any thing is prepared for their communications, they are immediately preſent, neither then approaching, nor being prior to this abſent, but always poſſeſſing themſelves in the ſame uniform manner. If, therefore, any terrene nature is adapted to the participation of theſe divine powers, they are preſent to this; and fill all things with themſelves. And indeed they are more preſent to ſuperior natures, but they are preſent to ſuch as are middle according to the order of theſe, and to laſt natures, in an ultimate reſpect. They ſupernally, therefore, extend themſelves to the extremities of things: and on this account laſt natures contain the images of ſuch as are firſt; and *all things ſympathize with all*[*]. For ſecondary pre-exiſt in firſt natures; and firſt natures manifeſtly appear in ſuch as are ſecond. For every thing ſubſiſts in a three-fold manner; either through *cauſe*, or through *hyparxis*, or through *participation*.

[*] He who underſtands this divine ſentence, *that all things ſympathize with all*, will ſee that the magic cultivated by the ancient philoſophers, is founded in a theory no leſs ſublime than rational and true. Such a one will contemplate the univerſe as one great animal, all whoſe parts are in union and conſent with each other; ſo that nothing is foreign and detached; nothing ſtrictly ſpeaking void of ſympathy and life. For though various parts of the world, when conſidered as ſeparated from the whole, are deſtitute of *peculiar* life; yet they poſſeſs ſome degree of animation however inconſiderable, when conſidered with relation to the univerſe. Life indeed may be compared to a perpetual and univerſal ſound; and the ſoul of the world reſembles a lyre, or ſome other muſical inſtrument, from which we may ſuppoſe this ſound to be emitted. But from the unbounded diffuſion as it were of the mundane ſoul, every thing participates of this harmonical ſound, in greater or leſs perfection, according to the dignity of its nature. So that while life every where reſounds, the moſt abject of beings may be ſaid to retain a faint echo, of the melody produced from the mundane lyre. It was doubtleſs from profoundly conſidering this ſympathy between the mundane ſoul, and the parts of the world, that the ancient philoſophers were enabled to procure the preſence of divinity, and perform effects, beyond the comprehenſion of the *vulgar*. And that this was the opinion of Plotinus, the following paſſage evinces: "It appears to me that the ancient wiſe men, who wiſhed to procure the preſence of the gods, by fabricating ſtatues and performing ſacred rites, directed their intellectual eye to the nature of the univerſe, and perceived that the nature of ſoul was every where eaſy to be attracted, when a proper ſubject was at hand, eaſily paſſive to its influence. But every thing adapted to imitation, is readily paſſive; and is like a mirror able to ſeize a certain form, and reflect it to the view." Ennead iv. lib. 3.

PROPO-

PROPOSITION CXLI.

Every providence of the gods, is partly exempt from the natures for which it provides, and is partly co-ordinated with them.

FOR one kind of providence is entirely extended above the things which are illuminated, according to the whole of its order. But another kind provides for ſubjects of the ſame co-ordination with itſelf; imitating the providential energy of the gods, who are ſeparated from the concerns for which they provide; and deſiring to fill ſecondary natures with the goods, they are capable of receiving.

PROPOSITION CXLII.

The gods are preſent to all things after the ſame manner, but all things are not after the ſame manner preſent to the gods. For every thing participates of their preſence according to its order and capacity. And this is accompliſhed by ſome things uniformly, and by others variouſly; by ſome things eternally, and by others according to time; and by ſome things incorporeally, and by others in a corporeal manner.

FOR it is neceſſary that the different participation of theſe, ſhould either proceed from the participant, or from the thing participated. But every thing divine always poſſeſſes the ſame order: and with reſpect to all things, is without reſtraint, and without mixture. It remains, therefore, that mutation muſt ſubſiſt through the participant; and that in theſe that which is not perpetually the ſame muſt abide; and that theſe are differently preſent to the gods. Hence the gods are preſent to all things, in the ſame uniform manner, though all things are not equally preſent to them. But particulars are preſent according to their ability; and they enjoy the divinities, agreeable to the manner in which they are preſent to their illuminations. For the participation of theſe is according to the meaſure of their preſence.

PROPOSITION CXLIII.

All inferior natures fail before the preſence of the gods, though a participant among theſe may be adapted to participation. Indeed every thing foreign departs from divine light, but all things are at once illuminated.

FOR divine natures always poſſeſs a more comprehenſive capacity, and are more powerful than their progreſſions. But the inaptitude of the participants, is the cauſe of the privation of divine light: for it obſcures divine light by its debility*. But this obſcured light, appears to receive another domination, not according to its own power, but according to the impotency of the participant, which ſeems to fail and die away, before the illumination of a divine form.

PROPOSITION CXLIV.

All beings, and all the diſtributions of beings, extend as far in their progreſſions as the orders of the gods.

FOR the gods produce beings together with themſelves, nor is any thing able to ſubſiſt, and to receive meaſure, and order beyond the influence of the gods. For all things are perfected, diſpoſed, and meaſured through the power of the gods. Hence the gods have a ſubſiſtence prior to the laſt genera of beings; who alſo diſpoſe theſe, and impart to them life, formation, and perfection; who convert them to *the good*, and who are in like manner prior to middle, and primary natures. And all things are bound, and ſtably rooted in the gods, and through this derive the continuance, and preſervation of their being. But when any thing apoſtatizes, or recedes from the gods, and becomes on this account ſolitary and deſtitute, it entirely departs into non-entity, and periſhes: becauſe perfectly deprived of thoſe natures, by which it was contained.

* For as this divine light operates according to the debilitated nature of the ſubject into which it is received (and there is no other way in which it can operate), it neceſſarily appears to receive a dominion foreign from its own. Hence it appears both obſcure and impotent, though in reality neither: for theſe are the imperfections of the ſubject which it actuates and illumines.

PROPOSITION CXLV.

The characteriſtic of every divine order, pervades through all ſecondary natures, and impa:ts itſelf to all the ſubordinate genera of beings.

FOR if the diſtributions of beings, extend as far as the orders of the gods, there muſt be in every genus of beings, a ſupernally-illuminated property of the divine powers. For every thing receives from its proximate cauſe, that characteriſtic, or property, by which it is allotted its peculiar ſubſiſtence. I ſay, for example, if any deity poſſeſſes a cathartic, or purgative power, there will alſo be a purgation in ſouls and in animals, in plants and in ſtones. And in the ſame manner with reſpect to a defenſive, converting, perfective, and viviſying power. And a ſtone indeed participates of a purgative virtue, but in a corporeal manner only. But a plant participates it more clearly according to life. An animal poſſeſſes this form, according to the motion of appetite: but a rational ſoul, in a rational manner; and intellect, intellectually. But the gods poſſeſs this ſuper-eſſentially, and uniformly. And the whole ſeries is endued with this power, from one divine cauſe: and there is the ſame mode of reaſoning in the reſt. For all things depend on the gods. And different natures are illuminated by different gods; the divine ſeries, deſcending even to the extremity of things. And ſome things are connected with the gods immediately, but others through more or fewer mediums; *while all things in the mean time are full of gods*. And whatever any being naturally poſſeſſes it poſſeſſes from the gods.

PROPOSITION CXLVI.

The extremities of all the divine progreſſions, are aſſimilated to their principles; preſerving a circle without beginning and end, through a converſion to their principles.

FOR if every progreſſion returns to the principle from which it proceeds, much more muſt total orders, proceeding from their ſummit, be converted to it again. But the converſion of the extreme to its principle, forms one whole, finite, and verging to itſelf; and exhibiting through its inclination uniformity in multitude.

PROPOSITION CXLVII.

The ſummits of all the divine orders, are aſſimilated to the extremes of their ſuperiors.

FOR if it is requiſite that there ſhould be a coherence, and continuity in a divine progreſſion, and that every order ſhould be connected by proper mediums; it is neceſſary that the ſummits of ſecondary orders, ſhould be conjoined with the extremes of ſuch as are firſt. But conjunction ſubſiſts through ſimilitude: and hence there will be a ſimilitude of the principles of an inferior order, to the extremes of one ſuperior.

PROPOSITION CXLVIII.

Every divine order is united to itſelf in a triple reſpect; by the ſummit which it contains; and by its middle, and end.

FOR its *ſummit* poſſeſſing a moſt united power, tranſmits this power into a total union, and unites every thing ſupernally flowing into itſelf. But its *middle* extending to each extreme, connects every thing about itſelf: transfuſing the gifts of primary natures, but extending the powers of ſuch as are laſt; and inſerting in all things a communion and connection with each other. For by this means one co-ordination is produced from repleniſhing and repleniſhed natures, mutually verging to the middle, as to a certain centre. But the *end* returning again to the beginning, and reducing to this the progreſſive powers, affords ſimilitude and a mutual inclination to the whole order. And thus the whole order is one, through the unifying power of its primary parts; through the coherence ſubſiſting in its middle; and through the converſion of the extreme, to the principle of the progreſſions.

PROPOSITION CXLIX.

Every multitude of divine unities, is bounded according to number.

FOR if it is proximate to the one, it is not infinite; ſince that which is infinite is not connate to the one, but foreign from its nature. For if multitude eſſentially recedes from *the one*, it is evident that infinite multitude is perfectly deſtitute of the one: and hence it is likewiſe impotent and inefficacious. The multitude of the gods, therefore, is not infinite: and conſequently, it is uniform and bounded,

bounded, and more bounded than any other multitude, becauſe it is more allied to the one. If, therefore, multitude was the principle of things, it would be requiſite that every thing nearer to, ſhould be a greater multitude than that which is more diſtant from the principle: for that which is nearer is more ſimilar. But ſince that which is firſt is *the one itſelf*, the multitude conjoined with it muſt be leſs multitude than that which is more remote from *the one*. But infinite is not a leſs multitude, but multitude in the moſt eminent degree.

PROPOSITION CL.

Every thing progreſſive in the divine orders, is not naturally adapted to receive all the powers of its producing cauſe. Nor do ſecondary natures entirely receive all the powers of natures prior to themſelves: but theſe poſſeſs ſome powers abſtracted from inferiors; and incomprehenſible by things poſterior to themſelves.

FOR if there is a difference in the characteriſtics of the gods, thoſe of the inferior muſt pre-exiſt in the ſuperior gods: but the characteriſtics of the ſuperior, as being more univerſal, do not reſide in the inferior divinities. But the more excellent characterſtics impart ſome powers to their productions, but eminently pre-occupy others in themſelves. For it has been demonſtrated that thoſe are more univerſal, which are nearer to the one, but more particular, which are more diſtant. But if the more univerſal poſſeſs powers comprehenſive of the more particular characteriſtics; hence thoſe which poſſeſs a ſecondary, and more particular order, will not contain the power of ſuch as are more univerſal. Hence in the ſuperior, there is ſomething incomprehenſible, and uncircumſcribed by the inferior properties. For every thing divine is truly infinite; nor does it exhibit itſelf to itſelf; nor to things of a much prior ſuperiority to itſelf: but to all ſuch as are poſterior to its nature. But infinity reſides in theſe laſt, according to capacity. And infinite is incomprehenſible by thoſe to whom it is infinite. Hence inferiors do no not participate of all the powers, which more excellent natures pre-occupy in themſelves. For the latter are incomprehenſible by the former. Hence things ſecondary, from their more particular ſubſiſtence, will neither poſſeſs the whole of ſuperior natures, nor will they contain the properties which they poſſeſs, in the ſame manner, as their ſuperiors; on acount of that infinity through which ſuperior excel ſubordinate natures.

PROPOSITION CLI.

Every thing paternal * in the gods has a primary ſubſiſtence, and pre-exiſts in the order of *the good*, according to all the divine diſtributions.

FOR that which is paternal, produces the hyparxes of ſecondary natures, and univerſal powers, and eſſences, according to one ineffable excellence. And on this account it is denominated *paternal*, indicating the uniform and beneficent power of *the one*, and the hypoſtatical, or procreative cauſe of ſecondary natures. And in every order of the gods, that which is paternal, obtains the principality, producing and adorning all things from itſelf; becauſe it is eſtabliſhed analogous to *the good*. And with reſpect to theſe divine fathers, ſome are more univerſal, but others more particular; juſt as the orders of the gods differ in the proportion of cauſe, according to more univerſal, and more particular. As many therefore as are the univerſal progreſſions of the gods, ſo many alſo, are the differences of fathers. For if in every order there is ſomething analogous to the good, it is requiſite that *the paternal* ſhould reſide in all, and that each order ſhould proceed from a paternal union.

PROPOSITION CLII.

Every thing generative in the gods proceeds according to the infinity of a divine power, multiplying itſelf, penetrating through all things; and eminently demonſtrating a never failing energy, in the progreſſions of ſecondary natures.

FOR what elſe but the infinite power of the gods, through which all divine natures are filled with prolific good, can multiply progreſſions, and produce them into offſpring from their occult comprehenſion in cauſes? For that which is univerſally full,

* According to the Chaldaic theology, which is the ſame with the Platonic, the intelligible order, ſubſiſting immediately after *the one*, conſiſts of three triads; the ſummit of each being called *father*, the middle, *power*, and the third *intellect*. This is profoundly and beautifully explained by Proclus in Theol. Plat. lib. 3. to which I refer the reader deſirous of copious information, on this ſublime and intereſting ſubject. I only add that Plato in the Timæus, aſcribes theſe appellations to the demiurgus of the univerſe: and this ſufficiently proves that words of this kind are not the invention of the latter Platoniſts, according to the ignorant aſſertion of Hyde, in the preface to his book, "On the Religion of the Perſians;" a work of an alluring title, but of inſignificant execution.

produces

produces other things from itſelf, through its overflowing power. Hence a dominion of power, is the characteriſtic of generative deity: and this abſolute dominion multiplies the powers of generated natures, cauſes them to be prolific, and excites them to the generation and production of others. For if every thing imparts its primary characteriſtic to others, every thing prolific muſt inſert in natures poſterior to itſelf, a prolific progreſſion, and form a figurative repreſentation of that infinity, which is the firſt progeny of the univerſe; from which every generative power proceeds, and which eminently ſcatters as from a fountain, the perennial progreſſions of divine natures.

PROPOSITION CLIII.

Every thing perfect in the gods, is the cauſe of divine perfection.

FOR as with reſpect to hypoſtaſes, or ſubſiſtences, ſome belong to beings, and others are ſuper-eſſential; ſo likewiſe of perfections, ſome belong to the gods themſelves according to hyparxis, but others to ſecondary beings poſterior to the gods. And the former indeed are ſelf-perfect, and firſt-artificers, becauſe in theſe good is contained in a primary manner: but the latter poſſeſs perfection through participation. On this account, therefore, the perfection of the gods is different from the perfection of things deified. But that which is primarily perfect in the gods, is not only the cauſe of perfection to things deified, but to the gods themſelves. For if every thing perfect is converted to its domeſtic principle, the cauſe of every divine converſion, is the perfective genus of the gods.

PROPOSITION CLIV.

Every thing in the gods endued with a protecting power, preſerves every thing in its proper order; uniformly ſeparating ſecondary natures, and eſtabliſhing them in ſuch as are firſt.

FOR if the preſervation of every order, preſerves meaſure in an immutable manner, and contains all the protected natures, in their proper perfection, divine protection will inſert in all things an eminence above their inferiors, and will permanently eſtabliſh in itſelf every thing, without mixture. It will likewiſe be the cauſe of immaculate purity, to protected natures, and will eſtabliſh them in their ſuperiors. For every thing adhering to primary natures is perfect; but at the ſame time it abides in itſelf, and is extended above inferior natures.

PROPO-

PROPOSITION CLV.

Every thing vivific in the divine genera, is a generative cauſe; but every prolific order is not alſo vivific.

FOR a generative power is more univerſal than that which is vivific, and is nearer to the principle of all. For generation manifeſts a cauſe producing beings into multitude: but vivifying (ζωογονία) repreſents deity the ſupplier of univerſal life. If, therefore, the former multiplies the hypoſtaſes of beings, but the latter the progreſſions of life; it will be as *being* is to *life*, ſo is the *generative* order to the *vivific* ſeries. And hence the generative order will be more univerſal, and the cauſe of more effects, and on this account nearer to the principle of all.

PROPOSITION CLVI.

Every cauſe of purity, is contained in the protecting order. But the protecting is not the ſame with the purifying genus.

FOR purity inſerts an unmixed nature in every thing inferior to the gods, and an unpolluted power, in the providence of ſecondary natures. But protection likewiſe produces this, comprehending all things in itſelf, and firmly eſtabliſhing them in their ſuperiors. Hence the protecting is more univerſal than the purgative genus. For it is ſimply the property of protection, to preſerve the order of every thing, both with reſpect to itſelf, and to things prior and poſterior to its nature. But it is the property of purity to ſeparate things more excellent from ſuch as are more baſe *: and the former of theſe are primarily contained in the gods. For it is requiſite that there ſhould be one antecedent cauſe of that which is contained in all things. And univerſally the uniform meaſures of every thing good, are firſt received from the gods; and there is no good in ſecondary natures, which does not pre-exiſt in the gods according to cauſe. For what other origin, or cauſe, can this poſſeſs? In the gods, therefore, purity is likewiſe a primary good, together with protection, and every thing of this kind.

* In conſequence of this the cauſe of protection muſt be ſuperior to the cauſe of purgation, or purity. For ſince protection preſerves things in their proper order, but purity ſeparates things excellent from ſuch as are baſe, and the latter is preparatory to the former; hence protection muſt be ſuperior in the order of cauſes to purgation.

PROPOSITION CLVII.

Every paternal cauſe ſupplies every thing with being, and conſtitutes the hyparxes of beings. But every demiurgic, or fabricative cauſe of forms, precedes compoſite natures, together with their order, and diviſion according to number: and is of the ſame order with a paternal cauſe, in the more particular genera of things.

FOR each of theſe belongs to the order of bound, becauſe both *hyparxis*, and *number*, and *form*, are all of them endued with the form of bound: and hence through this they are co-ordinate to one another. But that which is *a demiurgic cauſe*, deduces fabrication into multitude. And that which is *uniform*, ſupplies the progreſſions of beings. And the former indeed is the artificer of forms, but the latter produces eſſence. In whatever reſpect, therefore, *form* and *being* * differ from each each other, in the ſame reſpect that which is *demiurgic* differs from that which is *paternal* †. But form itſelf, is a certain one. A paternal cauſe, therefore, is both more univerſal and cauſal, and is ſuperior to the demiurgic genus; in the ſame manner as being itſelf is more univerſal than form.

PROPOSITION CLVIII.

Every reductorial cauſe (τὸ ἀναγωγὸν) in the gods differs both from a cathartic or purifying cauſe, and from convertive genera.

FOR that a reductorial cauſe, ought to be primarily reſident in the gods, is evident; as in theſe all the cauſes of univerſal good pre-exiſt. But it ſubſiſts prior to a cathartic cauſe; becauſe that liberates from baſer, but a reductorial cauſe connects with more excellent natures. It has, however, an order more particular than the convertive genus; becauſe every thing convertive, is either converted to itſelf, or to a more excel-

* That *being* and form differ from each other is evident from the 73d and 74th propoſition of theſe Elements, in which it is demonſtrated that *being* is ſuperior to *form*; becauſe being is above that which is total, and that which is total is above form.

† He who underſtands this will ſee the propriety of the appellation *fabricator*, and *father*, given by Plato in the the Timæus to the artificer of the world; and why *fabricator* is placed before *father*; concerning which conſult Proclus on Plato's Theology, lib. v. cap. 15.

lent nature. But the operation of that which is reductorial, is characterized according to a converſion to that which is more excellent; becauſe it leads that which is converted to ſomething ſuperior, and more divine.

PROPOSITION CLIX.

Every order of the gods conſiſts from the firſt principles, *bound* and *infinity*. But one order conſiſts more from the cauſe of *bound*, and another from that of *infinity*.

FOR every order indeed proceeds from both, becauſe the communications of primary, penetrate through all ſecondary cauſes. But in ſome orders *bound* predominates in the mixture, and in others *infinity*. And hence that in which *bound* prevails, becomes a genus poſſeſſing the form of bound; but that in which *infinity* has the dominion, becomes a genus endued with the form of infinity.

CONCERNING INTELLECT.

PROPOSITION CLX.

Every divine intellect is uniform, and perfect; and is a primary intellect ſubſiſting from itſelf, and producing other intellects.

FOR if it be a god, it is full of divine unities, and is uniform. But if this be the caſe it is alſo perfect, being full of divine goodneſs. And again, if this be the caſe, it is a primary intellect, as being united to the gods: for deified intellect is more excellent than every intellect. But ſince it is a primary intellect, it alſo confers ſubſiſtence on other intellects: for from firſt entities, all ſecondary beings obtain their hyparxis.

PROPOSITION CLXI.

Every true being depending on the gods, is a divine intelligible, and is imparticipable.

FOR ſince true being as we have demonſtrated is that which firſt participates a divine unity, it alſo fills intellect, from itſelf. For intellect is being, as that which

is

is repleniſhed with being: and conſequently true being is a divine intelligible. It is divine indeed, as that which is deified; but as that which is filled with intellect, which it alſo participates, it is intelligible. And intellect indeed is being, through the firſt being. But the firſt being is ſeparated from intellect, becauſe intellect is poſterior to being. And imparticipables are prior to things participated. Hence being united with intellect, pre-exiſts by itſelf, and is imparticipable. For it is intelligible, not as co-ordinated with intellect, but as eminently perfecting intellect; becauſe it communicates being to intellect, and fills it with eſſence ſubſtantial and real.

PROPOSITION CLXII.

Every multitude of unities illuſtrating true being, is occult and intelligible. *Occult* indeed, as conjoined with the one; but *intelligible*, as participated by being.

FOR all the gods are denominated from their dependants, becauſe the different hypoſtaſes of the gods may be known from theſe. For every thing divine is of itſelf ineffable and unknown, becauſe connate to *the ineffable one*. But by the permutation of participants, it happens that the properties of the gods become known to ſubordinate natures. Indeed the unities which illuſtrate true being are intelligible; becauſe true being is a divine intelligible, and is likewiſe imparticipable, as ſubſiſting prior to intellect. For this would not depend on the firſt gods, unleſs they poſſeſſed a primary hypoſtaſis, and a power perfective of other gods: ſince as participants are to each other, ſo likewiſe are the hyparxes of participated natures.

PROPOSITION CLXIII.

Every multitude of unities participated by imparticipable intellect, is intellectual.

FOR as intellect is to true being, ſo are theſe unities, to intelligible unities. So far, therefore, as they illuminate divine and imparticipable intellect, they are intellectual: but they are not ſo intellectual, as ſubſiſting in intellect, but as ſubſiſting through cauſe prior to, and generating intellect.

PROPOSITION CLXIV.

Every multitude of unities participated by imparticipable ſoul, is ſuper-mundane.

FOR ſince imparticipable ſoul, is primarily ſuper-mundane, the gods alſo participated by this ſoul, are ſuper-mundane; poſſeſſing the ſame proportion to the intellectual, and intelligible gods, which ſoul has to intellect, and intellect to true being. As therefore every ſoul is extended to intellect, and intellect is converted to that which is intelligible; ſo likewiſe the ſuper-mundane depend on the intellectual gods, in the ſame manner as theſe laſt, on ſuch as are intelligible.

PROPOSITION CLXV.

Every multitude of unities participated by any ſenſible body, is mundane.

FOR it ſupernally illuminates the parts of the world, through the mediums of intellect and ſoul. For neither is intellect preſent without ſoul to any mundane body; nor are deity, and ſoul immediately conjoined: for participations ſubſiſt through ſimilars. And intellect according to the intelligible which it contains, and the ſummit of its nature, participates of unity. Unities, therefore, are mundane, ſo far as they fill the whole world, and deify apparent bodies. For each of theſe is divine, not through ſoul; (for ſoul is not the firſt god) nor through intellect; (for this is not the ſame with *the one*), but is animated and ſelf-motive, through ſoul. But it always contains itſelf in the ſame manner, and is carried in the beſt order through intellect; being at the ſame time divine through a divine unity. And if it poſſeſſes a providential power, it is ſuch through unity as the cauſe.

PROPOSITION CLXVI.

Every intellect is either imparticipable, or participable. And if participable, it is either participated by ſuper-mundane, or mundane ſouls.

FOR an imparticipable intellect poſſeſſing a primary hyparxis preſides over every multitude of intellects. But of participated intellects, ſome are ſuper-mundane, and illuſtrate

luſtrate imparticipable ſoul; but others are mundane. For multitude emanating from an imparticipable, is not immediately mundane; ſince progreſſions ſubſiſt through ſimilars. But that which is ſeparated from the world, is more ſimilar to an imparticipable, than that which is divided about it. And there is not only a ſuper-mundane, but likewiſe a mundane multitude. Since there is likewiſe a mundane multitude of gods, and the world is at the ſame time animated and endued with intellect. And the participation of ſuper-mundane gods by mundane ſouls, ſubſiſts through mundane intellects as the connecting mediums.

PROPOSITION CLXVII.

Every intellect underſtands itſelf. But the firſt intellect underſtands itſelf alone *. And in this, intellect and that which is intelligible is one in number. But all ſucceeding intellects, underſtand both themſelves and prior intellects. † And the intelligible to this firſt intellect, is partly that which it is itſelf, and partly that from which it proceeds.

FOR every intellect either underſtands itſelf, or that which is above, or that which is poſterior to itſelf. But if it underſtands that which is poſterior to itſelf; ſince it is intellect it will be converted to a worſe nature, and will not even know that to which it is converted, becauſe the object of its intellection will not reſide in its nature, but will be external. And thus it will only poſſeſs in itſelf a type, or figure, of this external object. For it knows that which it poſſeſſes, and that to which it is paſſive, but not that which it does not poſſeſs, and by which it is not affected. But if it underſtands that which is above itſelf, ſince this is accompliſhed by the knowledge of itſelf, it will both underſtand itſelf, and the nature ſuperior to its own. But if it knows that alone, it will at the ſame time that it is intellect, be ignorant of itſelf. But by knowing that which is ſuperior to itſelf, it knows alſo that it is a cauſe, and of what it is the cauſe: for if it is ignorant of theſe, it will alſo be ignorant of that ſuperior

* This muſt be underſtood, not as if the firſt intellect underſtood nothing but itſelf; but that it underſtands no other intellect beſides itſelf. For the divine unities, and the firſt one, are the objects of its continual ſpeculation: and in this exalted employment its life and felicity invariably and eternally conſiſts.

† This laſt ſentence of the propoſition, is in the original: *και νοητον εστι. τουτο, το μεν, ο εστι, το δε, αφ' ου εστιν.* And this Portus renders with his uſual unſkilfulneſs: et eſt mente-perceptum. Hoc *autem* partim quidem, *eſt illud*, quod eſt, partim vero, *eſt illud*, a quo eſt. That is, "and it is intelligible. But this is partly that which it is, but partly is that from which it is." The wrong pointing after *εστι*, which inſtead of a period ſhould be a comma, and *τουτο* being erroneouſly printed for *τουτῳ* were the cauſes of Portus' miſtake: and this he would have rectified, had he underſtood the propoſition.

nature.

nature. And hence by knowing that which is prior to itſelf, it will alſo know itſelf. If therefore any intellect is intelligible, this by knowing itſelf will underſtand an intelligible, and will be itſelf its own intelligible. But each of the intellects poſterior to this, will at the ſame time underſtand that which is intelligible in itſelf, and that which is prior to itſelf. There is, therefore, in intellect, that which is intelligible, and in that which is intelligible intellect. But the one, is the ſame with that which is intelligible *; and the other is the ſame with the intelligible in itſelf, but is not the ſame with the intelligible prior to itſelf. For the one is ſimply intelligible, and the other is an intelligible in an intelligent nature.

PROPOSITION CLXVIII.

Every intellect knows in energy that which it underſtands. And it is not the property of one part of its nature to know, and of another to underſtand that which it knows.

FOR if it is intellect in energy, and knows itſelf as not different from the object of its intellection †; it will both know and perceive itſelf. But beholding that which is intelligent, and knowing that which beholds, it will know that it is intellect in energy. And knowing this, it will know that it underſtands, and will not alone know the object of its intellection. It will, therefore, at the ſame time both know that which is intelligible, and that it underſtands this: and by intellection it will be underſtood by itſelf.

PROPOSITION CLXIX.

Every intellect poſſeſſes in eternity, its eſſence, power, and energy.

FOR if it underſtands itſelf, and intellect is the ſame with that which is intelligible; intellection alſo is the ſame with intellect, and intelligible. For ſince intelligence

* Thus for inſtance intellect in *being itſelf*, which comprehends the higheſt order of intelligibles, is νους νοητος, or an *intelligible intellect*; becauſe it is the object of intelligence to all ſubordinate natures, and becauſe its viſion is tranſcendently ſimple and occult. But every intellect is indeed the ſame with the intelligible in its own nature, but is ſubordinate to *intelligible itſelf*.

† Intellect in energy, or in the act of underſtanding is the ſame with the object of its intellection. For the object of its perception, muſt be reſident in its eſſence, or it would perceive externally like ſenſe; and thus would not behold the thing itſelf, but only its image. But if that which is intelligible is ſeated in the eſſence of intellect, it will in no reſpect differ from intellect: for it will be eſſential to its nature, and will conſequently be intellectual, as well as intelligible.

is a medium between that which knows, and that which is known; and ſince theſe two are the ſame, intelligence alſo will be one and the ſame with each of theſe. But ſince the eſſence of intellect is eternal (for the whole ſubſiſts at once) intelligence alſo will be eternal: for it is the ſame with the eſſence of intellect. But if intellect is eternal, it will by no means be meaſured by time, neither according to eſſence, nor according to energy. And ſince theſe ſubſiſt in the ſame manner, the power alſo of intellect is eternal.

PROPOSITION CLXX.

Every intellect, at once underſtands all things. But an imparticipable intellect underſtands all things ſimply. And each of the intellects poſterior to this underſtands all things according to one.

FOR if every intellect eſtabliſhes its eſſence in eternity, and together with its eſſence, its energy, it will underſtand all things at once. And all things indeed exiſt according to parts, and a ſucceſſive energy, which do not ſubſiſt in eternity. For every thing ſucceſſive ſubſiſts in time; ſince it poſſeſſes prior and poſterior, which are ſucceſſive, and do not ſubſiſt all at once. If, therefore, all intellects underſtand ſimilarly, they will not differ from each other: for if they underſtand all things ſimilarly, they are all things ſimilarly; ſince they are no other than the things which they underſtand. But if they are all things ſimilarly, one intellect will not be imparticipable, and another not: for their eſſences are the ſame with the objects of their intellections; ſince the intellection of each is the ſame with its eſſence, and every intellect is both intelligence and eſſence. It remains, therefore, either that every intellect does not equally know all things but one or more, and not all things together; or that it knows all things according to one *. But to aſſert that intellect does not underſtand all things, is to make it ignorant of ſome particular being. For if it is affected with tranſition, and does not underſtand *at once*, but according to prior and poſterior, at the ſame time poſſeſſing an immoveable nature, it will be inferior to ſoul, underſtanding all things according to motion, or a mutable energy; becauſe intellect on this hypotheſis, will only underſtand one thing by its permanent energy. It will, therefore, underſtand all things according to one. For it either underſtands all things; or one thing; or all things according to one. And the intelligence indeed of all things perpetually ſubſiſts in all intellects: but they terminate

* By an intellection *according to one* (κατὰ ἓν) we muſt underſtand a various intelligence ſubſiſting indiviſibly, and without mutation. Juſt as when by one and the ſame energy of viſion, we ſurvey the various parts of the ſame countenance though diſtant from each other. And an intellection of this kind belongs to all intellects ſubordinate to the firſt: for the intelligence of this is perfectly ſimple, and comprehends all things in one.

all

all things, according to one intelligence of all. Hence there is ſomething pre-dominant in intellection, and the objects of intelligence; ſince all things are at once underſtood as one, through the dominion of one, which characterizes all things with itſelf.

PROPOSITION CLXXI.

Every intellect is an impartible, or indiviſible eſſence.

FOR if it is without magnitude, incorporeal, and immoveable, it is impartible. For every thing in any reſpect partible, is either partible on account of magnitude, or multitude, or on account of energies ſubſiſting in time. But intellect is eternal according to all things, and is beyond a corporeal nature; and the multitude which it contains is united. It is, therefore, impartible. But that intellect is incorporeal, is manifeſt, from its converſion to itſelf: for no body poſſeſſes a ſelf-convertive power. But that intellect is alſo eternal, the identity of its energy with its eſſence evinces: for this we have already demonſtrated. And that its multitude is united, is evident from the coherence of intellectual multitude, with the divine unities: for theſe are the firſt multitude, and after theſe intellects ſubſiſt. Hence though every intellect is a multitude, yet it is an united multitude. For prior to that which is divided, that which is collected, and is nearer to the one, ſubſiſts.

PROPOSITION CLXXII.

Every intellect is the proximate ſuſtaining cauſe of natures eternal, and immutable according to eſſence.

FOR every thing produced from an immoveable cauſe, is immutable according to eſſence. But immoveable intellect being all things eternally, and abiding in eternity, eſſentially produces that which it produces. But if it is perpetual, and ſubſiſts after the ſame manner, it will always produce, and according to one uniform energy. Hence it is not the cauſe of things which are ſometimes beings, and ſometimes not, but it is the cauſe of eternal beings.

PROPOSITION CLXXIII.

Every intellect is intellectually both the things which are prior and poſterior to itſelf.

FOR it is the ſame with things poſterior to itſelf according to cauſe, and with things prior to itſelf by participation: but ſtill it is intellect, and is allotted an intellectual eſſence.

eſſence. Hence it defines all things according to its eſſence; both ſuch as ſubſiſt according to cauſe in another, and ſuch as ſubſiſt according to participation. For every thing according to its natural conſtitution, participates of more excellent natures: but not according to the ſubſiſtence of its ſuperiors. For theſe indeed are participated by all things, though in a different reſpect, according to the various natures of the participants. And hence participations ſubſiſt according to the characteriſtic and power of the participants: and conſequently in intellect things prior to its nature, ſubſiſt in an intellectual manner. But intellect is likewiſe intellectually things poſterior to itſelf: for it does not conſiſt from its effects, nor does it contain theſe, but the cauſes of theſe in itſelf. But intellect is the cauſe of all things by its eſſence, and its eſſence is intellectual; and conſequently it contains the cauſes of all things intellectually. Hence every intellect poſſeſſes all things intellectually; both ſuch as are prior and ſuch as are poſterior to itſelf. As, therefore, every intellect contains intelligibles intellectually, ſo likewiſe it contains ſenſibles according to an intellectual ſubſiſtence.

PROPOSITION CLXXIV.

Every intellect conſtitutes through intelligence natures poſterior to itſelf: and its fabrication is contained in intellection, and its intelligence in fabrication.

FOR if intelligible and intellect is the ſame; hence the being of every intellect conſiſts in ſelf-intellection. But it fabricates that which it fabricates by its eſſence, and produces that which is, according to being; and conſequently its productions ariſe from intelligence. For in intellect being and intelligence are one: becauſe intellect is the ſame with every being which it contains. If, therefore, intellect fabricates by its eſſence, and its eſſence is intellection, it will operate through intelligence, and intelligence will ſubſiſt in energy in intellection. But this is the ſame with its eſſence: and its eſſence conſiſts in operating. For that which operates immoveably, always poſſeſſes its eſſence in operating: and conſequently intellection conſiſts in fabrication.

PROPOSITION CLXXV.

Every intellect is primarily participated by thoſe natures, which are intellectual, both according to eſſence, and according to energy.

FOR it is neceſſary that it ſhould either be participated by theſe, or by other natures, which poſſeſs indeed an intellectual eſſence, but are not always intelligent. But it

is impoſſible that it ſhould be participated by theſe latter. For the energy of intellect is immoveable. And hence the natures by which intellect is participated, always participate of an intellectual energy, which always cauſes the participants to be intellectual. For that which poſſeſſes its energy in any part of time, cannot be conjoined with an eternity of energy. But as in eſſences themſelves, ſo alſo in the variations of energies, between every eternal energy, and that energy which receives its perfection in ſome period of time, that energy intervenes which poſſeſſes its perfection through the whole of time. For progreſſions ſubſiſt no where immediately, but are produced through kindred and ſimilar natures, both according to hypoſtaſes, and the perfections of energies. Every intellect, therefore, is primarily participated by thoſe natures which are able to underſtand through the whole of time, and which poſſeſs a perpetual intelligence; though their intellection may ſubſiſt according to time, and not according to the ſtability of eternity.

COROLLARY.

From hence it is evident that the ſoul which ſometimes underſtands, and at other times is void of intellection, cannot proximately participate of intellect.

PROPOSITION CLXXVI.

All intellectual forms ſubſiſt in one another, and each is at the ſame time ſeparate and diſtinct from the reſt.

FOR if every intellect is impartible, and the multitude which it contains is united through an intellectual impartibility: hence all that intellect contains will entirely ſubſiſt in one, and impartibles will be united to each other, and all intellectual forms will penetrate through all. But if all intellectual forms ſubſiſt immaterially, and incorporeally, they are without confuſion with reſpect to each other, and each ſeparately preſerves its own purity, and abides that which it is. But the characteriſtic participation of each diſtinct participant, declares the unconfuſed ſubſiſtence of intellectual forms. For if participated natures were not diſtinguiſhed, and ſeparate from each other, neither would their participants participate them diſtinctly, but there would be a much greater indiſtinct confuſion in ſubordinate natures, from their ſubſiſting in a more degraded order. For from whence could diſtinction ariſe, if the natures which conſtitute and perfect theſe, ſhould be indiſtinct and confuſed? Again, the hypoſtaſis of that which contains impartibly, and an uniform eſſence, atteſt the union of forms. For things poſſeſſing their hyparxis, in that which is impartible and uniform, ſubſiſt impartibly in the ſame. For how can that be divided, which is impartible and one? For natures of this kind

kind ſubſiſt together, and penetrate totally through each other, without diſtance: ſince that which contains, is not diſtant; and one thing is not in this place, and another in that, as in things ſeparated by interval from each other. But every thing at once ſubſiſts in that which is impartible and one: and conſequently they all ſubſiſt in each other. All intellectual forms, therefore, ſubſiſt unitedly in each other, and each is at the ſame time diſtinctly ſeparate from the reſt.

COROLLARY.

But if any one beſides the above demonſtrations requires examples, let him contemplate the theorems reſident in one particular ſoul; all which ſubſiſt truly in the ſame ſoul, in an eſſence deſtitute of magnitude, and are united to each other. For the ſoul does not contain the things reſident in its nature, according to magnitude, and locally, but impartibly, and without diſtance, unitedly, and diſtinct. For the ſoul produces all things diſtinctly, and each at the ſame time ſeparate and apart, without attracting any thing to itſelf from the reſt, which unleſs they were always diſtinguiſhed according to habit, would not be diſtinguiſhed by the energy of the ſoul.

PROPOSITION CLXXVII.

Every intellect ſince it is a plenitude of forms, comprehends either more univerſal or more particular forms. And ſuperior intellects contain in a more univerſal manner, whatever poſterior intellects contain in a more particular manner. But inferior intellects, contain according to a more partial mode, whatever prior intellects contain more univerſally.

FOR ſuperior intellects employ greater powers, becauſe they are more uniform than ſecondary intellects. But inferior intellects, from their being more multiplied, diminiſh the powers which they poſſeſs. For ſuch as are more allied to the one, being contracted in quantity, are ſuperior in power to ſuch as are poſterior; while ſuch as are more diſtant from the one poſſeſs a contrary property. Superior intellects, therefore, eſtabliſhing a greater power, but a leſs multitude, produce more effects through forms, leſs according to quantity. [But * intellects poſterior to theſe, produce fewer

* That part of this propoſition, within the crotchets is in one place very defective in the Greek, which may be corrected as follows: Inſtead of reading οἱ δὲ μεῖζ' ἐπείνως, διὰ πλειόνων, ἧσσον. κατὰ τὸν δι'ὅμοιον ὧν ἐλλαμψιν ἐμφαίνει δὲ ἐλασσόνων πλήθους παραγωγόν, ὁλικώτερα ὡσαύτως ἐκείνοις: read after πλειόνων:——ἧσσον, κατὰ τὸν διὰ ὁμοίων ἐλλειψιν. ὧν ὡσαύτως δὲ, and the reſt as above.

effects, through a greater multitude of forms, on account of their deficiency in power. If, therefore, ſuperior intellects produce more effects, through a leſs number of forms, the forms which they contain are more univerſal.] And if inferior intellects, produce fewer effects through a greater multitude of forms, the forms which they contain, are more particular.

COROLLARY.

From hence it happens that the natures which are generated from the ſuperior orders according to one form, are produced in a divided manner from ſecondary orders, according to a greater multitude of ideas. And on the contrary thoſe natures which are produced from things ſubordinate, through many, and diſtinct forms, are produced by ſuperior natures, through fewer, and more univerſal forms. And that which is univerſal and common, ſupernally accedes to all participants. But that which is divided, and peculiar proceeds from ſecondary natures. Hence ſecondary intellects by the more particular ſeparation of characteriſtics, articulately diſtinguiſh, and attenuate the formations of primary intellects.

PROPOSITION CLXXVIII.

Every intellectual form, is the framer of eternal natures.

FOR if every intellectual form is eternal, and immoveable, it is eſſentially the cauſe of immutable and eternal hypoſtaſes; but not of ſuch as ſubſiſt in generation, and are corruptible. And hence every thing fabricated according to an intellectual form, is an *intellectual eternal*. For if it produces all forms poſterior to ſuch as are intellectual, through *being*; and if the being of intellectual forms is eternally the ſame, their productions alſo will ſubſiſt after the ſame manner, and will be eternal. Hence neither the genera which according to ſome particular time, are fabricated by a formal cauſe, nor things corruptible, ſo far as corruptible, poſſeſs a pre-exiſtent intellectual form. For they would be void of corruption and generation, if they poſſeſſed their hypoſtaſis, according to a pre-exiſtent intellectual form.

PROPOSITION CLXXIX.

Every intellectual number is bounded.

FOR if there is another multitude poſterior to this diminiſhed according to eſſence, and ſo more remote from the one, while intellectual number is nearer to the one: and

and if that which is nearer to the one, is leſs according to quantity, and that which is far diſtant is more according to quantity; intellectual number alſo will be leſs than every multitude poſterior to its nature. It is not, therefore, infinite: and ſo the multitude of intellects is bounded. For that which is leſs than another, is not infinite: becauſe infinite, ſo far as infinite, is not leſs than any thing.

PROPOSITION CLXXX.

Every intellect is a whole, as compoſed from parts, and is united with others, and at the ſame time diſtinguiſhed from them. But imparticipable intellect is ſimply univerſal; and contains in itſelf, as it were all parts univerſally. But each particular intellect poſſeſſes the whole as in a part; and thus contains all things particularly.

FOR if it is all things according to one thing; and if that which is all things according to one, is ſomething particular alone: hence, the whole ſubſiſts in each of theſe particularly, on account of ſomething particular, determinately predominating in them all.

PROPOSITION CLXXXI.

Every intellect which is participated is either divine, as depending on the gods; or is intellectual only.

FOR if there is a divine and imparticipable intellect, that which is primarily allied to this, does not differ from it in both theſe reſpects; that it is not divine, and that it is not imparticipable. For things diſſimilar in both theſe reſpects, cannot be conjoined with each other. It is evident, therefore, that the medium between theſe, is partly ſimilar to the firſt intellect, and partly diſſimilar. Either, therefore, it is imparticipable, and not divine; or it is participated, and divine. But every thing imparticipable is divine, as being allotted an order in multitude, analogous to the one. And hence there will be ſome one intellect, divine, and at the ſame time participated. But it is requiſite that there ſhould be an intellect, not participating the divine unities, but intelligent only. For in every ſeries, firſt natures, and which are conjoined with their unity, are able to participate their proximate ſuperiors. But ſuch as are far diſtant from their primary unity, cannot depend on the natures placed in an order proximately ſuperior to their

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and if that which is nearer to the one, is leſs according to quantity, and that which is far diſtant is more according to quantity; intellectual number alſo will be leſs than every multitude poſterior to its nature. It is not, therefore, infinite: and ſo the multitude of intellects is bounded. For that which is leſs than another, is not infinite: becauſe infinite, ſo far as infinite, is not leſs than any thing.

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FOR if it is all things according to one thing; and if that which is all things according to one, is ſomething particular alone: hence, the whole ſubſiſts in each of theſe particularly, on account of ſomething particular, determinately predominating in them all.

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their own. There is, therefore, both a divine intellect, and an intellect intellectual alone. And the latter subsists according to an intellectual characteristic which it possesses from its own unity, and from imparticipable intellect: but the former according to a union, which it receives from participated unity.

PROPOSITION CLXXXII.

Every divine intellect, which is participated, is participated by divine souls.

FOR if participation renders the participant similar, and causes it to be allied to that which is participated; it is evident that that which participates a divine intellect, must be a divine soul *. It is likewise evident that it must depend on a divine intellect, and that it must participate the deity which it contains, through intellect as a medium. For † intellect connects with deity (θεότης) its participant soul, and conjoins one divine nature with another.

PROPOSITION CLXXXIII.

Every intellect, which is participated indeed, but is intellectual alone, is participated by souls neither divine, nor subsisting in a mutation from intellect, into a privation of intellect.

FOR neither are divine souls of this kind; nor such as participate of intellect. For souls participate of the gods through a divine intellect, as we have already demonstrated. Nor are such as participate of an intellectual intellect susceptive of mutation. For every intellect is participated by natures, which are always intellectual, both according to essence, and according to energy; as is evident from the preceding propositions.

* The reader must observe that this is to be understood of immediate participation.

† Instead of ἡ γαρ θεοτης συνεξαπτει τῳ νῳ. κ. τ. λ. as in the original, the sense requires that we should read ὁ γαρ νοῦς συνεξαπτει τῳ θεοτητει. κ. τ. λ.

CONCERNING

CONCERNING SOUL.

PROPOSITION CLXXXIV.

Every ſoul is either divine, or capable of being changed from intellect into a privation of intellect; or it always remains as a medium between theſe, and is at the ſame time inferior to divine ſouls.

FOR if a divine intellect is participated by divine ſouls, but an intellectual intellect, by thoſe ſouls alone, which are neither divine, nor ſuſceptive of a mutation from intellect into a privation of intellect (for there are ſouls of this kind, which ſometimes underſtand, and are ſometimes deſtitute of intelligence); it is evident that there are three genera of ſouls. And the firſt indeed are divine. But the ſecond are not divine, yet they always participate of intellect. And the third are thoſe, which are ſometimes changed into an intellectual condition, and ſometimes into a privation of intellect.

PROPOSITION CLXXXV.

All divine ſouls, are gods animaſtically, (ψυχικῶς, or according to the nature of ſoul). But all ſouls participating an intellectual intellect, are the perpetual attendants of the gods. And all ſouls ſuſceptive of mutation, are ſome time or other attendants of the gods.

FOR if ſome ſouls poſſeſs a divine light, ſupernally illuſtrating their nature, but others are endued with perpetual intelligence, and others again, are ſometimes only allotted this perfection: hence the firſt of theſe will among the multitude of ſouls, be analogous to the gods; but the ſecond, will perpetually attend the gods, on account of their perpetually energizing intellect, and will depend on divine ſouls, to which they will have the ſame proportion, as that which is intellectual to that which is divine. And thoſe which are ſometimes endued with intelligence, will alſo ſometimes attend the gods; but they will neither always participate intellect after the ſame manner, nor will they always be converſant with divine ſouls. For that which is only ſometimes allotted intellect, cannot by any means always attend the gods.

PROPOSITION. CLXXXVI.

Every ſoul is both an incorporeal eſſence, and ſeparable from body.

FOR if it knows itſelf, and if every thing ſelf-gnoſtic, is converted to itſelf, and every thing converted to itſelf is not a body (for every body is incapable of ſelf-converſion), nor inſeparable from body; for every thing inſeparable from body, is not naturally adapted to be converted to itſelf, ſince through this, it would be ſeparated from body; hence every ſoul, is neither a corporeal eſſence, nor inſeparable from body. But that the ſoul, knows itſelf, is manifeſt. For if it knows things ſuperior to itſelf, and is naturally adapted to know itſelf, it will much more know itſelf, through cauſes prior to its own nature *.

PROPOSITION CLXXXVII.

Every ſoul is immortal and incorruptible.

FOR every thing which is capable in any reſpect of diſſolution and diſperſion, is either corporeal and a compoſite, or is allotted an hypoſtaſis in a ſubject. And that indeed which is diſſolved, is corrupted, as ſubſiſting from many things. But that which is naturally adapted to ſubſiſt in another, when ſeparated from its ſubject, vaniſhes into non-entity. But ſoul is both incorporeal, and external to every ſubject, reſiding in itſelf, and being converted to itſelf. It is, therefore, immortal, and incorruptible.

PROPOSITION CLXXXVIII.

Every ſoul, is both life, and vital.

FOR that to which ſoul accedes neceſſarily lives; and that which is deprived of ſoul, is immediately left deſtitute of life. For it either lives through ſoul, or through ſomething elſe, and not through ſoul. But it is impoſſible, that it ſhould live through ſomething elſe alone. For every thing which is participated, either communicates it-

* For inferiors are comprehended in ſuperiors, and particulars in univerſals; ſo that he who knows univerſals, knows particulars alſo; though the reverſe of this is not true. The ſoul, therefore, by poſſeſſing a natural capacity of knowing herſelf, and things ſuperior to her own nature, will from the illuminations attending her knowledge of the latter, know herſelf in a much more eminent and perſpicuous manner.

ſelf,

ſelf, or ſomething of itſelf to its participant. But if it ſhould do neither of theſe, neither will it be participated. But ſoul is participated by that to which it is preſent: and that is called animated, which participates of ſoul. If, therefore, that which is participated confers life on animated natures, it is either life, or vital alone, or at the ſame time both life and vital. But if it is vital alone, and not alſo life, it will be compoſed from life, and non-life *: and thus it will neither know, nor be converted to itſelf. For *life is knowledge* †; and that which is gnoſtic, or endued with knowledge, ſo far as it is gnoſtic, lives. If, therefore, there is any thing in ſoul deſtitute of life, this ſomething will not eſſentially poſſeſs a ſelf-gnoſtic power. But if ſoul, is life alone, it will no longer participate an intellectual life. For that which participates of life, is vital, and not life alone; ſince that which is life alone, is firſt and imparticipable life. But life poſterior to this, is vital, and at the ſame time life. And ſoul is not imparticipable life. It is, therefore, both life, and vital.

PROPOSITION CLXXXIX.

Every ſoul is ſelf-vital.

FOR if it is converted to itſelf, and every thing ſelf-convertive, is ſelf-ſubſiſtent, ſoul alſo is ſelf-ſubſiſtent, and ſuſtains itſelf. But it is alſo both life, and vital, and its hyparxis is according to vitality. For to whatever natures it is preſent, it communicates life, through its eſſence. And if the participant is adapted to participation, it immediately becomes animated and vital; ſoul neither reaſoning nor chuſing, nor vivifying by reaſoning and judgement, but by its eſſence alone communicating life to the participant. Hence the being of ſoul, is the ſame with its life. If, therefore, it poſſeſſes being from itſelf, and this is the ſame with its life, it will eſſentially poſſeſs life, and will afford life to itſelf, and will poſſeſs life from itſelf. But if this be the caſe, ſoul will be ſelf-vital.

* Thus for inſtance the body of the world, or of any particular animal, is *vital* from its receiving the echo of ſoul; but as it does not at the ſame time, eſſentially poſſeſs *life*, (or elſe it wou'd be ſoul) it is compoſed from life, and non-life. For it is nothing more than body, or non-life, united with the laſt image of ſoul, or a debile life.

† This truly divine ſentence, is derived from the moſt profound theory; and can alone be underſtood by thoſe who have deeply ſtudied the ſix books of Proclus on Plato's Theology. I ſhall, therefore, only obſerve for the ſake of the *intellectual reader*, that as *eſſence*, *life*, and *intellect* ſubſiſt in occult union, in the firſt being, which comprehends the higheſt order of the gods; and as *intelligence* is the medium between that which is *intelligible*, and *intellect*; it is evident that life itſelf is intelligence.

PROPOSITION CXC.

Every ſoul is a medium between natures impartible, and ſuch as are diviſible about bodies.

FOR if it is ſelf-vital, and ſelf-ſubſiſtent, and has an hyparxis ſeparate from bodies, it is ſeparated from, and is more excellent than all partible natures, ſubſiſting about bodies. For theſe are entirely inſeparable from their ſubjects; becauſe they are divided together with diviſible weights, depart from themſelves, and their own impartibility, and are co-extended with bodies. And though they ſubſiſt in vital natures, yet theſe are not the lives of partible eſſences, but of their participants: and though they abide in eſſence and forms, yet theſe are not their own forms, for they are forms of formed natures. Soul, therefore, is a ſelf-ſubſiſting, and ſelf-vital eſſence; it is likewiſe a knowledge, gnoſtic of itſelf, and according to all theſe ſeparable from bodies. But it likewiſe participates of life: and if this be admitted, it likewiſe participates of eſſence. But it participates alſo of knowledge from other cauſes. And hence it is evident, that it is worſe than impartibles, becauſe it is filled with life externally: and if with life, it is evident that it is alſo externally repleniſhed with eſſence. For prior to every particular life, imparticipable life, and imparticipable eſſence ſubſiſts. But it is likewiſe manifeſt that ſoul, is not the firſt gnoſtic nature. For every ſoul ſo far as ſoul, poſſeſſes life indeed, but not knowledge alſo from its exiſting as ſoul. For certain ſouls, while they remain as ſouls, are at the ſame time ignorant of beings. Soul, therefore, is not the firſt gnoſtic nature, nor does it poſſeſs knowledge on account of its eſſence. And hence it poſſeſſes an eſſence the ſecond from thoſe, which are primarily, and eſſentially gnoſtic. Since, therefore, the eſſence of ſoul is divided from its knowledge, it does not rank among natures purely impartible. But it has been demonſtrated, that neither does it ſubſiſt in the order of things diviſible about bodies. It is, therefore, ſituated between both.

PROPOSITION CXCI.

Every participable ſoul poſſeſſes an eternal eſſence, but its energy ſubſiſts in time.

FOR either it poſſeſſes both eternally, or both temporally; or one eternally, but the other temporally. But it cannot poſſeſs both eternally: for on this hypotheſis, it would be an impartible eſſence; and the nature of ſoul would differ nothing from an intellectual.

rellectual hypoſtaſis; viz. a ſelf-motive from an immoveable nature. Nor can it poſſeſs both its energy and eſſence in time: for thus it would be generated alone; and would neither be ſelf-vital, nor ſelf-ſubſiſtent. For nothing meaſured by time is eſſentially ſelf-ſubſiſtent. But ſoul is ſelf-ſubſiſtent. For that which is converted to itſelf according to energy, is alſo eſſentially converted to itſelf, and proceeds from itſelf. It remains, therefore, that every ſoul is partly eternal, and partly a participant of time. It is either, therefore, eternal according to eſſence, but participating of time, according to energy; or the contrary. But this latter hypotheſis is impoſſible. Every participable ſoul, therefore, is allotted an eternal eſſence, but poſſeſſes an energy according to time.

PROPOSITION CXCII.

Every participable ſoul, ranks in the number of eternal beings, and among the firſt of generated natures.

FOR if it is eternal according to eſſence, it is true being according to its hyparxis, and is a perpetual being. For that which participates of eternity, participates likewiſe of perpetual being. But if it ſubſiſts in time according to energy, it is generated. For every thing participating of time, is always in generation (or in becoming to be) according to the prior and poſterior of time, and is not at once, that which it is, but the whole of it is generated. But if every ſoul, is in a certain reſpect generated according to energy, it will be the firſt of generated natures. For that which is entirely generated, is more remote from eternal natures.

PROPOSITION CXCIII.

Every ſoul ſubſiſts proximate to intellect.

FOR if it poſſeſſes an eternal, and immutable eſſence, it proceeds from an immoveable eſſence: ſince that which proceeds from a moveable eſſence, is entirely changed according to eſſence. The cauſe, therefore, of every ſoul is immoveable. But if it is proximately perfected by intellect, it is alſo converted to intellect, and participates the knowledge, which intellect confers on the natures able to participate cognition. For all knowledge proceeding from intellect, is inherent in all the natures, in which intellect reſides. But that to which all things are naturally converted, is the ſource of their progreſſion according to eſſence. Every ſoul, therefore, proceeds from intellect.

PROPOSITION CXCIV.

Every ſoul poſſeſſes in a ſecondary manner, all the forms, which intellect primarily contains.

FOR if it proceeds from intellect, and intellect is the fabricator of ſoul; and if intellect ſubſiſting immoveably produces all things; it will alſo impart to ſoul, which it conſtitutes, the eſſential reaſons of all things which it contains. For every thing which operates through eſſence, imparts ſecondarily to its production, that which it is itſelf primarily. Soul, therefore, contains in a ſecondary manner the repreſentations of intellectual forms.

PROPOSITION CXCV.

Every ſoul is all things, containing ſenſible natures, after the manner of an exemplar; (παραδειγματικῶς) but intelligibles after the manner of images (εἰκονικῶς).

FOR ſubſiſting as a medium between natures impartible, and ſuch as are divided about bodies; it produces and conſtitutes the latter of theſe; but eſtabliſhes in itſelf the prior cauſes from which it proceeds. Hence it previouſly receives after the manner of an exemplar the natures to which it is prior as their cauſe: but it poſſeſſes through participation, and as the bloſſoms of firſt natures, the cauſes of its ſubſiſtence. It previouſly receives in its eſſence, therefore, through cauſe all ſenſible natures, and contains immaterial reaſons of things material, incorporeal of ſuch as are corporeal, and indiſtant of ſuch as are diſtinguiſhed by interval. But it contains intelligibles after the manner of an image, and receives partibly, their impartible forms, ſuch as are uniform variouſly, and ſuch as are immoveable according to a ſelf motive condition. Soul, therefore, is all beings; containing ſuch as are firſt through participation, but ſuch as are poſterior to its nature, after the manner of an exemplar.

PROPOSITION CXCVI.

Every participable ſoul primarily uſes an eternal body, which poſſeſſes an unbegotten and incorruptible hypoſtaſis.

FOR if every ſoul is eternal according to eſſence, and through its eſſence firſt animates ſome particular body, it will always animate this body: for the eſſence of every

every soul is immortal. But if this be admitted, that which is immortal must be always animated, and must always participate life. But that which always lives, is perpetual by the act of all things *. And that which is perpetual is eternal. Hence that body which is first animated, and which first depends on soul, is eternal. But every participable soul is primarily participated by some particular body; since it is not imparticipable, and eternally animates its participant. Every participable, or participated soul, therefore, has a body primarily eternal, without generation, and incorruptible according to essence.

PROPOSITION CXCVII.

Every soul is *an essence* vital and gnostic, and *a life* essential, and gnostic, and is both knowledge, essence, and life. It likewise contains all things together, the essential, the vital, and the gnostic; and all in all, and each separate and apart from the rest.

FOR if it has a middle subsistence between forms imparticible, and such as are distributable about bodies; it is neither so imparticible as all intellectual natures, nor so participable, as corporeal forms. Since, therefore, such essences, lives, and cognitions, are distributed in corporeal natures; all these inhabit imparticibly in souls, unitedly, and incorporeally, and are at the same time all things, on account of their immateriality, and imparticibility. And since all things subsist in intellects according to union, they are distinguished and divided in souls. All things, therefore, subsist together, and apart in soul. But if all immortalities subsist together and in one, they mutually penetrate through each other: and if separate they are again divided without continuity; so that each subsists by itself, and all in all. For in essence there is both life and knowledge: since if essence was eternally deprived of life and knowledge, every soul would not have itself. And in life there is both essence and knowledge. For life without essence and knowledge belongs to material lives, which are neither able to know themselves, nor are sincere and pure essences. And knowledge which is both deficient of essence and life, is incapable of self subsistence. For all cognition belongs to that which is vital, and which is allotted essence eternally.

* Because every soul is life, and is no other than infinite life, as is sufficiently proved from Plotinus, in the note to Proposition xxx.

PROPO-

PROPOSITION CXCVIII.

Every thing which participates of time, and is always moved, is meaſured by periods.

FOR ſince it is meaſured by time it both participates a meaſure and bound of motion, and proceeds according to number. But becauſe it is always moved, and this *always*, is not eternal *, but temporal, it is neceſſary that it ſhould uſe periods. For motion is a certain mutation from ſome things into others. But beings are terminated by multitudes and magnitudes. And theſe being terminated, there can neither be an infinite mutation, according to a right line, nor can that which is always moved proceed according to a finiſhed progreſſion. Hence that which is always moved will proceed from the ſame to the ſame; and will thus form a period in its progreſſion.

PROPOSITION CXCIX.

Every mundane ſoul uſes periods and reſtitutions of its proper life.

FOR if it is meaſured by time it operates tranſitively, and poſſeſſes a proper motion. But every thing which is moved and participates of time, when it is eternal, uſes periods, revolves periodically, and proceeds from the ſame to the ſame. And hence every mundane ſoul, poſſeſſing motion and energizing according to time, will both poſſeſs periods of motion, and reſtitutions into its priſtine ſtate. For every period of eternal natures, returns to its priſtine ſtate.

PROPOSITION CC.

Every period of ſoul is meaſured by time. But the period of particular ſouls, is meaſured by ſome particular time: and the period of the firſt ſoul, ſince it is meaſured by time, is meaſured by univerſal time.

FOR if all motions contain prior and poſterior, they participate of a period, and on this account of time. And that which meaſures all the periods of ſouls is time.

* For that which is properly eternal, is perfectly ſtable, and is never ſubject to mutation.

But

But if the periods of all ſouls were the ſame, and about the ſame; the time of all would be the ſame. But if the reſtitutions of different ſouls are different, the periodic time of their reſtitutions alſo, is different. That the ſoul, therefore, which is firſt meaſured by time, is meaſured by univerſal time, is evident. For if time is the meaſure of every motion; the firſt motion, will entirely participate of time, and will be meaſured by the whole of time. For if univerſal time, did not meaſure its firſt participant, neither would it meaſure any thing elſe, according to the whole of itſelf. But that all other ſouls are meaſured by the more particular meaſures of univerſal time, is evident from what we have now demonſtrated. For if they are more particular than the ſoul which firſt participates of time, they cannot accommodate their periods to univerſal time. But the multitude of their reſtitutions, will be parts of that one period and reſtitution, by which the firſt participant of time, returns to its priſtine ſtate. For the participation of a leſſer power is more particular, but of a greater, more univerſal. Other ſouls, therefore, are not naturally adapted to receive a univerſal temporal meaſure, through one life; ſince they are allotted an order more remiſs than that which is firſt meaſured by time, becauſe they are allotted an inferior order.

PROPOSITION CCI.

All divine ſouls poſſeſs triple energies; one kind as ſouls; another as receiving a divine intellect; and a third kind, as depending on the gods. And they provide indeed for the univerſe, as gods; but they know all things through an intellectual life; and move bodies through a ſelf-motive eſſence.

FOR ſince they naturally participate ſupermundane natures, and are not ſimply ſouls, but divine ſouls, bearing before themſelves an order analogous to the gods, in an animaſtic latitude; they will energize not only animaſtically, but alſo divinely; becauſe they are allotted a deified ſummit in their eſſence, and poſſeſs an intellectual hypoſtaſis, through which they are ſpread under intellectual eſſences. They energize, therefore, not only divinely, but alſo intellectually; poſſeſſing one energy according to *the one*, which they contain in the receſſes of their natures, but another according to an intellectual operation. There is likewiſe preſent to theſe divine ſouls, an energy according to their proper hyparxis; which is motive of natures moved by others, but vivific of ſuch as poſſeſs an adventitious life. For this is the proper employment of every ſoul; but ſuch energies as intelligence and providence, they receive through participation.

PROPO-

PROPOSITION CCII.

All ſouls attending upon, and always following the gods, are inferior to divine, but more eminent than particular ſouls.

FOR divine ſouls participate of intellect and deity. They are, therefore, at the ſame time intellectual and divine, and preſide over other ſouls, in the ſame manner as the gods preſide over the univerſality of things. But particular ſouls are deprived of a ſuſpenſion from intellect, becauſe they are not able to participate proximately, of a divine eſſence. For they would not fall from an intellectual energy, if they eſſentially participated of intellect, as we have previouſly demonſtrated*. Hence the ſouls, which always follow the gods, are of a middle condition; participating indeed a perfect intellect, and through this ſurpaſſing particular ſouls, yet not depending on the divine unities. For the intellect which they participate is not a divine intellect.

PROPOSITION CCIII.

Of every animaſtic multitude, (i. e. a multitude belonging to ſouls) divine ſouls ſince they are greater than others in power, are contracted according to number. But ſuch as always follow the gods, retain a middle order among all ſouls, both in power, and quantity. And particular ſouls, are inferior to others in power, but proceed according to a greater number.

FOR divine ſouls are more allied to the one, on account of a divine eſſence; but thoſe of a middle order, through the participation of intellect. And thoſe of the laſt order, are eſſentially diſſimilar to thoſe of the middle and firſt kind. But among eternal natures ſuch as are nearer to the one, are more united in number, and are more contracted in multitude, than ſuch as are more diſtant. But ſuch as are more remote, are more multiplied. Hence the powers of ſuperior ſouls, are greater, and have the ſame proportion to ſecondary ſouls, as that which is divine to that which is intellectual, and as the intellectual to the animaſtic nature. And the quantities of inferior ſouls, are more in number. For that which is more diſtant from the one, is a greater, and that which is nearer a leſs multitude.

* In Propoſition CLXXXIV. And from hence it appears, that by particular ſouls in this Propoſition, are meant ſuch as are capable of being changed from the poſſeſſion of intellect, into its privation.

PROPO-

PROPOSITION CCIV.

Every divine ſoul preſides over many ſouls, the perpetual attendants on the gods; and over a ſtill greater number of ſuch as ſometimes receive this order.

FOR if it is divine, it is requiſite that it ſhould be allotted an order, generative of all things, and firſt-operative among ſouls. For that which is divine, throughout all beings, preſides over the univerſality of things. And it is requiſite that it ſhould neither alone preſide over ſuch ſouls, as perpetually follow the gods; nor alone over ſuch as are ſometimes their attendants. For if any divine ſoul alone preſides over ſuch ſouls as ſometimes attend the gods, how can theſe be united with a divine ſoul; ſince they are entirely different from this, and neither proximately participate intellect, nor (by a much ſtronger reaſon,) the gods? But if it alone preſides over ſuch as perpetually follow the gods, how can the ſeries proceed to ſouls, the partial attendants on the gods? For thus intellectual natures will be the laſt, and will be unable through their barrenneſs, both to perfect other natures, and reduce them to their original. It is neceſſary, therefore, that ſuch ſouls as follow the gods, and energize through intellect, and are reduced to intellects more partial than divine intellects, ſhould firſt depend from every divine ſoul. But the ſecond to theſe are partial or particular ſouls, which are able through the former, as mediums, to participate intellect, and a divine life. For through thoſe which always participate, thoſe which ſometimes participate a more excellent condition, are perfected. And again, it is neceſſary, that about every divine ſoul, there ſhould be a greater number of ſouls which ſometimes follow, than of thoſe which always attend on the gods. For the power of unity, always proceeds into multitude, according to remiſſion, and ſubjection; failing indeed in power, but excelling in number. Since in a ſimilar manner every ſoul perpetually following the gods, preſides over a greater multitude of particular ſouls, imitating a divine ſoul; and elevates many ſouls to the firſt-operative unity of the whole ſeries. Every divine ſoul, therefore, preſides over a multitude of ſouls, the perpetual attendants on the gods: but preſides over a ſtill greater multitude of ſuch as are ſometimes allotted this order.

PROPOSITION CCV.

Every particular ſoul has the ſame proportion to the ſoul to which it is ſubjected according to eſſence, as the vehicle of the one to the vehicle of the other.

FOR if there is a natural diſtribution of vehicles in all ſouls, it is neceſſary that the vehicle of every particular ſoul, ſhould have the ſame proportion to the vehicle of a univerſal ſoul, as the eſſence of the one, to the eſſence of the other. But the diſtribution of vehicles is according to nature: for firſt participants are naturally conjoined with the things participated *. If, therefore, as a divine ſoul is to a divine body, ſo is a particular ſoul to a particular body, each being participated eſſentially; hence that is true, which was aſſerted in the beginning, that vehicles alſo have the ſame proportion, as their correſpondent ſouls.

PROPOSITION CCVI.

Every particular ſoul, poſſeſſes a power of deſcending infinitely into generation, and of aſcending from generation to *being*.

FOR if it ſometimes follows the gods, but ſometimes falls from its purſuit of a divine nature, and alternately participates of intellect, and a privation of intellect; it is evident that it is converſant by parts in generation, and with the gods. But ſince it does not reſide with the gods, through an infinite time, neither will it be converſant with bodies, through the whole ſucceeding time. For that which has no temporal beginning, cannot have any end: and that which has no end, is neceſſarily without a beginning †. It remains, therefore, that every ſoul muſt perform periods, both of aſcenſions from generation, and of deſcenſions into generation; and that this will never fail, through an infinite time. Every particular ſoul, therefore, is capable of deſcending and aſcending in infinitum: and this paſſion never ceaſes to take place about every particular ſoul.

* The reader muſt obſerve that theſe vehicles or divine bodies, the firſt participants of their correſpondent ſouls, are no other than thoſe vehicles, ſo beautifully deſcribed by Syneſius, and inſerted in the preceding hiſtory of Theology.

† For a demonſtration of the truth of this ſentence, ſee the note to page 59, vol. I. of this work.

PROPO-

PROPOSITION CCVII.

The vehicle of every particular ſoul is fabricated by an immoveable cauſe.

FOR if it eternally depends on the ſoul, by which it is uſed, and is by a natural ſympathy immutable according to eſſence, it is allotted a ſubſiſtence from an immoveable cauſe. For that which is produced from moveable cauſes, is wholly changed according to eſſence. But every ſoul poſſeſſes an eternal body, which is the firſt participant of its nature. Hence the cauſe of every particular ſoul*, and conſequently of its vehicle, is immoveable, and on this account ſuper-mundane.

PROPOSITION CCVIII.

The vehicle of every particular ſoul, is immaterial, indiviſible according to eſſence, and impaſſive.

FOR if it proceeds from an immoveable fabrication, and is eternal, it poſſeſſes an immaterial and impaſſive hypoſtaſis. For ſuch things as are naturally paſſive according to eſſence, are all of them changed, and material: and from their ſubſiſting differently at different times depend on mutable cauſes. And on this account they receive an all various mutation, becauſe they are moved with their primary cauſes. But that this vehicle is indiviſible is manifeſt. For every thing which is divided, is corrupted ſo far as it is divided, becauſe it relinquiſhes the whole, and departs from continuity and conjunction. If, therefore, the vehicle is eſſentially immutable, it will alſo be impaſſive, and indiviſible.

PROPOSITION CCIX.

The vehicle of every particular ſoul deſcends indeed with the addition of material veſtments †; but is conciliated with the ſoul, by

* Inſtead of ἔστι καὶ ἡ μείζων ψυχὴ, καὶ τὸ αἴτιον. κ. τ. λ.—I read, ἔστι τὸ αἴτιον τῆς μείζονος ψυχῆς, καὶ ἄφθ. κ. τ. λ.

† χειρόνων is erroneouſly printed in the Greek, inſtead of χιτώνων.

an ablation of every thing material, and by returning to a form proper to its nature, and analogous to the ſoul by which it is employed.

FOR the vehicle indeed deſcends, aſſuming irrational lives, but in its aſcent, caſts aſide all the powers of generation, with which it was inveſted in its deſcent, and becoming [*pure returns to its proper form, and the priſtine condition of its nature. It likewiſe**] imitates the lives of the ſouls which employ it as an inſtrument, and is every where moved in conformity, with their motions. And by its circulations, it repreſents the intellections of ſome ſouls, but the falling of others, through their inclination to the realms of generation; and the purgations of others through the revolutions which lead to an immaterial nature. But becauſe it is eſſentially vivified by, and is connate with ſouls, it is all-variouſly changed along with their mutations; follows them every where; becomes paſſive, when they are expoſed to paſſivity; returns with them when they are purified; and is elevated when they are elevated, and purſues its proper perfection. For every thing is perfected, when it purſues the perfection of its nature.

PROPOSITION CCX.

Every connate vehicle of the ſoul, poſſeſſes both a form and magnitude perpetually the ſame. But it appears to be both greater and leſs, and endued with a diſſimilar figure, through the additions and ablations of other bodies.

FOR if it derives its eſſence from an immoveable cauſe, it is evident that both its figure and magnitude is derived from this cauſe: and each is immutable and invariable. But it appears differently at different times, as likewiſe greater, and leſs. Hence through the intervention of other bodies added from the material elements and again taken way, it exhibits a different appearance both in quantity and form.

PROPOSITION CCXI.

Every particular ſoul, deſcending into generation deſcends totally. Nor does any part of it remain on high, and another part deſcend.

FOR if any thing belonging the ſoul remains in the intelligible world, it either perpetually underſtands without tranſition, or tranſitively. But if without tranſition,

* That part of this propoſition, within the crotchets, is neither in the Greek which is here defective, nor in the tranſlation of Patricius, but is added from my own conjecture; whether or not with propriety, the reader muſt determine.

it

it will be intellect, and not a part of the ſoul; and this particular ſoul will be that which proximately participates of intellect. But this is impoſſible. And if tranſitively, that which is perpetually, and that which is only ſometimes intelligent, will form one eſſence. But this likewiſe is impoſſible: for all theſe differ, as we have previouſly ſhewn. Add too, the abſurdity which reſults from ſuppoſing that the ſummit of the ſoul is perpetually perfect, and yet does not rule over the other powers, and give them perfection. Every particular ſoul, therefore, totally deſcends.

THE END.

APPENDIX.

WHEN I firſt determined to give my labours to the public, in hopes of contributing to the reſtoration of the Platonic philoſophy, I embraced the reſolution of Dr. Johnſon and Goldſmith, *to ſet the Reviewers at defiance.* For I was fully convinced that neither able criticiſm, nor candid attention could be expected, where compoſition is dictated by the ſpirit of malevolence, and influenced by the views of pecuniary reward. However, though contempt is the moſt philoſophical mode of revenge, yet as a certain author well obſerves ſevere retaliation is ſometimes requiſite, in order to convince the ſubjects of our revenge, that we do not ſtoop to the meanneſs of abject ſubmiſſion. This mode of retaliation the defamation of the *Monthly Reviewers* in their *bundle of criticiſm* for Auguſt laſt obliges me to adopt: and they have afforded me in this review the moſt favourable opportunity I could deſire, of expoſing their *malevolence, ignorance,* and *pride.* I ſhall begin, therefore, with inſtancing their *malevolence,* as it is the firſt in our liſt of their bad qualities, and is the general characteriſtic of theſe aſſuming critics. In my preface to the tranſlation of Orpheus, after repreſenting the difficulty of well tranſlating the compound epithets of the Greek, into Engliſh, and the neceſſity of poſſeſſing the philoſophic genius for this purpoſe. I add: "*If ſome ſparks of this celeſtial fire, ſhall appear to have animated the boſom of the tranſlator, he will conſider himſelf as well rewarded for his laborious undertaking.*" Upon which theſe *candid* reviewers obſerve, (p. 138.) "Mr. Taylor was aware of this difficulty, though he ſeems to claim the merit of ſubduing it." In the ſecond place they aſſert, (p. 138.) that after lamenting, that the Commentary of Proclus on Plato's Cratylus is not likely to be publiſhed, "I comfort myſelf with the hope that my own labours will in ſome meaſure ſupply its place, by opening the pure ſources of genuine wiſdom. And that to this end I promiſe copious and truly philoſophic notes." Now the paſſage which furniſhed this malevolent aſſertion is the following: "What farther light we have been able to throw on theſe myſterious remains of antiquity, will appear in our following notes. If the valuable Commentary of Proclus on the Cratylus of Plato, was once publiſhed, I am perſuaded we ſhould find them full of the moſt recondite theology: but as this is not to be expected in the preſent

ſent age, the lovers of wiſdom will I doubt not gratefully accept the preceding and ſubſequent elucidations. *For on a ſubject ſo full of obſcurity as the preſent, a glimmering light, is as conſpicuous, and as agreeable to the eye of the mind, as a ſmall ſpark in profound darkneſs, is to the corporeal ſight.*" Diſſertation, p. 106. The infamy of ſuch miſrepreſentation is too glaring to require any illuſtration, too ſhameful to admit of any excuſe, and in any other cauſe than that of verbal criticiſm, too contemplible either to rouſe reſentment, or deſerve the moſt trifling attention. Let us now examine the ſpecimens of *ignorance* which theſe Reviewers afford in great abundance; and which as I preſume will appear much to the credit of my tranſlation. In the firſt place I am charged with "univerſally tranſlating the epithets φιλαιθιος, φιλοιργος, and μανικος, by the word *fanatic*, which I have employed in the ſenſe of the Latin word, from which it is derived." To which I reply, that the former part of this charge is falſe. For in the hymn to Minerva φιλοιργος is tranſlated *rage*; in the hymn to Diana, *fierce*; and in the hymn to Dionyſius Baſſareus, μανικος is tranſlated *furious*. The latter part of this aſſertion is true. For as the word *fanatic* is immediately derived from the Latin word *fanaticus*, which according to their own confeſſion means *numine afflatus*, or *one inſpired by a divine power*; and as the great Scaliger, whoſe authority is always deciſive, conſtantly tranſlates φιλαιθιος, *fanaticus*, I made no ſcruple of adopting it in my tranſlation. That, *fanatic* is never uſed in a good ſenſe by any author of repute may perhaps be true: but I ſee no reaſon why it ſhould not be employed according to the meaning of its original, eſpecially as there is no other word in our language ſo expreſſive of the words to which it correſponds in the Greek. The example of Ariſtotle, and the greateſt men of antiquity ſufficiently juſtifies both the invention of new terms when the poverty of a language requires a ſupply, and the adoption of old ones in a different ſenſe, when the difficulty of the ſubject demands verbal innovation. After this I am accuſed of *totally miſtaking* the meaning of various paſſages, the greater part of which I ſhall expoſe to the view of the reader with a literal tranſlation, and comment; that the ignorance of the *Reviewers* may appear without that veil which at preſent ſcreens it from the eyes of the unlearned in Greek. In the hymn to Pluto then, I have tranſlated the following line:

Μουνος εφυς αφανων εργων φαντωρ τε βροτοισης.
Of unapparent works thou art alone
The diſpenſator viſible and known.

That is, literally, "Thou art alone the diſpenſator of apparent and unapparent works." Now there is nothing in my verſion can be objected to, but the omiſſion of the word *apparent*, which the meaſure of the verſe obliged me to neglect; and which the addition of *viſible* and *known* in the ſecond line renders ſuperfluous, as the following obſervations

obſervations will evince. According to the Orphic theology, *Pluto* belongs to the ſame order as the *ſun*, and from his ſubſiſting in occult union with this deity, he is celebrated as one and the ſame: a cuſtom frequent with the Orphic theologiſts, as is well known to thoſe who are ſkilled in their writings. Hence conſidered as the *ſun*, he is the diſpenſator of *apparent*, and as *Pluto*, of *unapparent* works: and thus I preſume, I have not *totally miſtaken* the meaning of this line, in celebrating Pluto as a deity *viſible and known*. But that the reader may be fully convinced of the truth of this aſſertion, concerning the occult union between Pluto and the ſun, let him attend to the following Orphic verſe, preſerved by Juſtin Martyr, (in Cohortat. ad Gentes).

Εἷς ζεὺς, εἷς ἅδης, εἷς ἥλιος, εἷς διόνυσος ———

i. e. "Jupiter, Pluto, the Sun, and Bacchus are one.

Again, in the epithet αγλαοτιμε, it ſeems I have *totally miſtaken* the meaning of my author, by tranſlating it *honor'd light*. This word means literally *exceedingly honoured*: and the preceding expoſition ſufficiently proves the propriety of calling *Pluto*, *lucid*. Every reader knows the neceſſity there is in poetical tranſlations of adding ſomething to the original: and this is always allowed, when the addition is not contrary to the ſenſe of the text, but either expands it, if condenſed, or enlightens it, if obſcure. I am likewiſe charged with miſtaking the meaning of λογου θνητοισι, προφητα, or, *prophet of diſcourſe to mortals*, which I have rendered,

———'Prophet of diſcourſe.'

Now as this is literal, the miſtake muſt conſiſt in not ſubſtituting another word for *prophet*, which might expreſs what the author meant; the *Reviewers* never dreaming that this word, when properly underſtood, is perfectly ſufficient for the purpoſe. As they appear, therefore, to be *totally* ignorant of the original ſignification of a prophet, I ſhall ſubjoin its definition from Feſtus. "*Prophetas* dicebant veteres antiſtites fanorum, oraculorumque interpretes:" i. e. "the ancients called prophets the prieſts of fanes, and the *interpreters* of oracles." *Prophet of diſcourſe*, therefore, means *interpreter of diſcourſe*: and as this epithet is applied to Mercury, it is doubtleſs highly proper; if we conſider that he firſt reduced the infinity of voice into bound, by dividing letters into ſpecies; and thus truly became the interpreter of ſpeech to mankind. In the hymn to Venus, I have tranſlated,

Ειτ' εν Κυπρῳ, ανασσα τροφῳ σεο ———

"Or if in Cyprus with thy mother fair."

And it is literally "*Or if in Cyprus O queen, with thy nurſe.*" Fortunately for me, the metaphraſe of Scaliger agrees with my verſion, "*Sive in Cupro, matre tua.*" Perhaps the

the Reviewers forgot, or perhaps they are ignorant, that a mother and a nurse are frequently synonymous terms! I shall not trouble the reader with any more instances of my *mistakes*, as I can faithfully assure him, that the remaining passages adduced by the *Reviewers*, betray *if possible*, more malevolence and ignorance than the present. I shall, therefore, proceed to a defence of some epithets, and expressions which I have employed; and in which these *exquisite critics*, can neither discover *beauty*, nor even *propriety*.

In the first place then, they confess that they have too little *taste*, or too little *knowledge* to discover either *beauty*, or propriety, in my translation of the following line:

Νεμφαι θυγατερες μεγαλητερος Ωκεανοιο ———
'Nymphs, who from *ocean's stream* derive your birth.'

i. e. literally, 'Nymphs, daughters of the mighty ocean.' Now as the exceptionable part of this line, is *ocean's stream*, as appears by its being printed in *italics*; I can only assure the reader that I can plead no less authority than that of both *Homer*, *Hesiod*, *Plato*, and *Milton* for its *propriety* and *beauty*. Thus Homer, (Iliad xviii. l. 606.) speaking of the fabrication of Achilles' shield by Vulcan, says:

Ἐν δ' ἐτίθει ποταμοῖο μεγαστηνος ὠκεανοῖο.
i. e. 'But he placed in it the mighty strength of the *ocean's stream*.'

So likewise: (Iliad xx. l. 7.)

Οὔτε τις ὦν ποταμοῖν ἀπέην νέσφ' ὠκεανοῖο.
i. e. 'No *stream* was absent, except the *stream of the ocean*.'

Thus again, in the Odyssey: (lib. xi. l. 637.)

Τὴν δὲ κατ' Ὠκεανὸν ποταμὸν φέρε κῦμα ῥόοιο.

i. e. 'But the waves of the current bore it (the vessel) through the *ocean stream*.' And Milton had doubtless an eye to this last passage, when, speaking of the Leviathan, (Paradise Lost, book I.) he says:

——— or that sea beast
Leviathan, whom god of all his works
Created hugest, that swim th' *ocean stream*.

For here, as the reader must observe, he uses the very same expression with Homer. But Milton was not only a great poet, but a man of great learning; and was doubtless much better acquainted with Homer than the Reviewers.

Thus too Hesiod: (in Theog. l. 241. &c.)

——— και Δωρίδος ἠΰκομοιο,
Κούρης Ὠκεανοῖο τελήεντος ποταμοῖο.

i. e. 'and from the fair haired Doris, the daughter of the perfect *stream* of the *ocean*.' And the same epithet is used in l. 959. of the same work. And lastly, Plato in the Phædo, thus speaks of the *ocean*, as one of the four great *rivers*, of which Tartarus is the source: τὰ μὲν οὖν δὴ ἄλλα πολλά τε καὶ μεγάλα καὶ παντοδαπὰ ῥεύματά ἐστι. τυγχάνει δ' ἄρα ὄντα ἐν τούτοις τοῖς πολλοῖς τέτταρ' ἄττα ῥεύματα, ὧν τὸ μὲν μέγιστον καὶ ἐξωτάτω ῥέον περιούκλω, ὁ καλούμενος Ὠκεανός ἐστι. i. e. 'There are many other both great and all-various *rivers*, but principally four; the greatest and last of which, flowing round the earth in a circle, is called the *ocean*.'

I only add that this expression is perfectly philosophical, as will be evident from considering the ever-*flowing* condition of the ocean, by means of which it admirably corresponds with the nature of a *stream*. Homer indeed was so sensible of this truth, that he generally (if not always) speaks of the ocean in this manner; and there is no doubt, but he derived his conviction from the first and most profound philosophy in the world. After this the expression, a *blameless tide* of abundance is objected to. But if the epithet *blameless* may be applied to *abundance*, which it is in the original; (ἠδ' ὄλβον ἀμέμφη) and if a *tide* of wealth, is an usual expression, I see no reason why abundance, when conferred with moderation, may not be said to be poured in a *blameless tide*. The objections to the translations of (θνητων στηριγμα) 'basis of mankind,' and the first part of the hymn to Protogonus, are too contemptible to deserve any reply. This too would be the case with the epithet '*Bacchic King*,' which is literally translated from the Greek; (Βακχεῖον ἄνακτα) but very fortunately these *sagacious critics* have employed a correspondent expression, in their Review of Wharton's Milton: for in page 1. they speak of the *Miltonic muse*, which I presume must fall under the same imputation of *impropriety*, and want of *beauty* with *Bacchic king*. I shall only adduce one instance more, and then proceed to take notice of the pride of these uncandid and *ignorant* censors. In the hymn to Boreas, that deity is requested to dissolve the all-*misty station* of the air:

Αυε τε παννεφελον στασιν ηερος ———

Which I have accordingly translated,

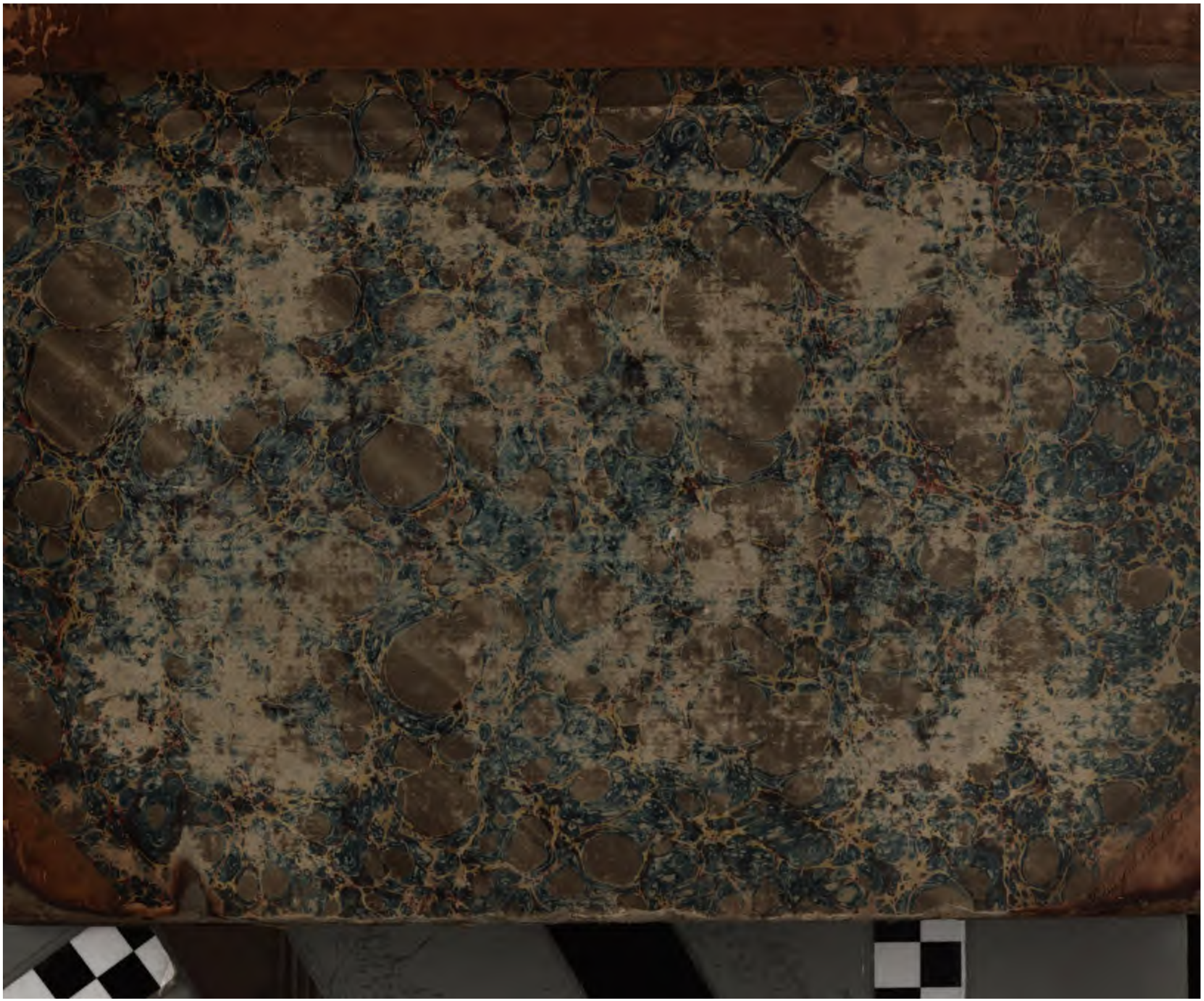
'The *misty station* of the air dissolve.'

And I must confess, that as I cannot find the least impropriety in speaking of the air as being in a *misty station*, I must conclude that this was exactly the *station* of the Reviewers, at the time when they composed the present criticism; the whole of which appears to have been the result of *misty* visions, *clouded* conceptions, and *uncertain* conjectures.

Let

Let us now proceed to a *review* of their *pride*. In the firſt place then, they very pompouſly inform us of their natural gravity as follows: 'Grave though we be, *our own* riſibility has been provoked,' &c. As if it was of any conſequence to the public, whether they are *grave* or *facetious*, ſolemn or *ludicrous*, ſanguine or *bilious*: whether they poſſeſs the qualities of the *owl*, or the ape; and whether they laugh like the tickled Hyæna, or like Milton's *death* 'grin horribly a ghaſtly ſmile.' In the next place, after having praiſed my paraphraſe of Plotinus on the Beautiful, they add: 'this praiſe ought to convince Mr. Taylor, that we are neither inſenſible to the real value of his author's work, nor blind to the merits of the tranſlation'. As if the praiſe of a Reviewer could be of any importance to a man, whoſe writings, are not calculated for the multitude: or as if the cenſure of ignorant judges, was not preferable to their moſt unbounded approbation! I only add that from men who are critics by profeſſion on the writings of others, the moſt perfect compoſition may be juſtly expected: and yet the *Monthly Reviewers* have groſly failed in this reſpect, as the following inſtances will evince: Polybius makes uſe of the expreſſion, νευειν προς ἑνα και τον αυτον σκοπον, i. e. 'to verge to one and the ſame end:' and this our admirable critics *tranſlate* (p. 122.) 'to verge to one *point*, and conſpire to one *end*:' which is obviouſly a moſt ridiculous tautology. For it is impoſſible that any thing can verge to one *point*, and at the ſame time conſpire to an *end*, different from that *point*. Again, in their review of Bell's Shakeſpeare, (p. 156.) they make uſe of the following ſimile: 'Shakeſpeare, now ſtands (among the French) as a *Coloſſus*, while the moſt that can be done by Voltaire, and indeed the very beſt of our modern writers at home, is to *creep* under his *feet*.' But here we may very juſtly enquire, what ſimilitude there is between *modern wits* endeavouring to imitate Shakeſpeare, conſidered as a *dramatic writer*, and *men* crawling under his feet, conſidered as *a Coloſſus*? If Shakeſpeare indeed had been a quadruped, men by creeping under his feet might be conſidered as his *groveling* imitators: but I cannot conceive any ſimilitude between a *creeping*, and an *upright* figure. I only add, that the Analytical Reviewers, are not more fortunate in their review of my tranſlation of Proclus. For after aſſerting that the original is not remarkable for its elegance (though the contrary is the opinion of the beſt ancient and modern writers) and that I have too faithfully copied my author in this reſpect, they inform us, among other *intereſting* particulars, 'that the employment of an ancient philoſopher did not conſiſt in relieving the *diſtreſſes* of the *wretched*, and the *wants* of the *miſerable*!' After ſuch a ſpecimen of tautology, we cannot wonder that Proclus is conſidered as an inelegant writer: for though his language is always overflowing and majeſtic, it never degenerates into weak and needleſs repetition. While on the other hand, there is ſuch a *perfect* ſameneſs, in the above ſentence, that, 'to relieve the *diſtreſſes* of the *wretched*, and the *wants* of the *miſerable*,' is indeed no other, than 'to verge to one *point*, and conſpire to one *end*!'

And

And thus much for the Reviewers, whom in any other cauſe than that of verbal criticiſm, I ſhould conſider as too mean for cenſure, and even too inſignificant for *contempt*. For what attention can thoſe writers deſerve, who decide dogmatically on ſubjects they have never ſtudied; who endeavour by malevolent aſperſions to ruin the reputation of men they have never ſeen; and who abuſe the credulity of the ignorant, by a monthly compilation of criticiſms, which originate from vanity, and ultimately tend to illiberal gain?

THE END.